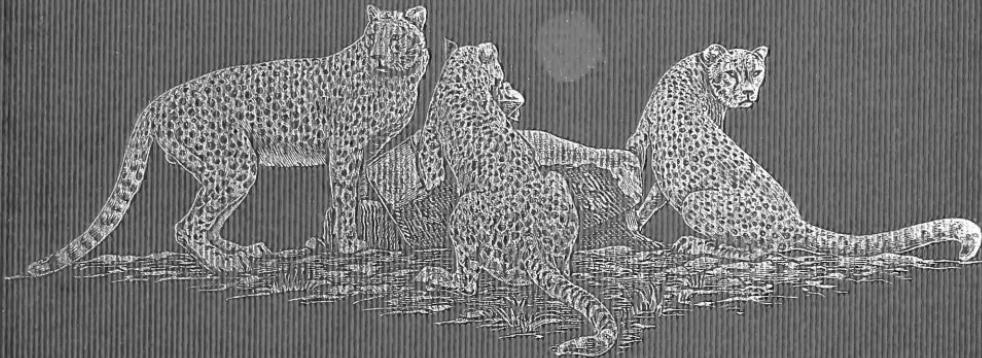


THE ZOOLOGICAL GARDENS OF EUROPE



C. V. A. PEEL

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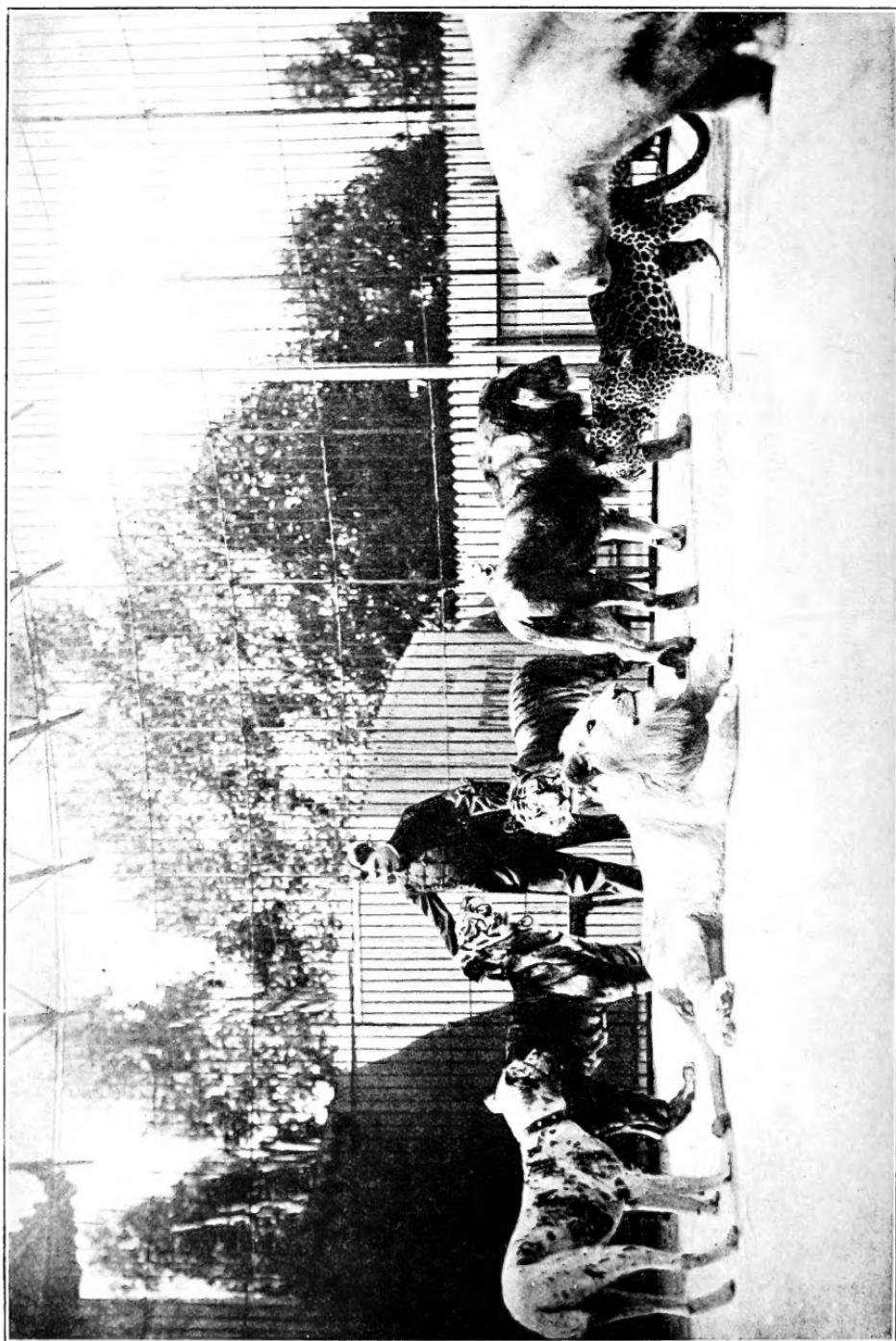
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THE ZOOLOGICAL GARDENS OF EUROPE



GROUP OF PERFORMING ANIMALS AT CARL HAGENBECK'S.

THE ZOOLOGICAL GARDENS OF EUROPE

Their History and Chief Features

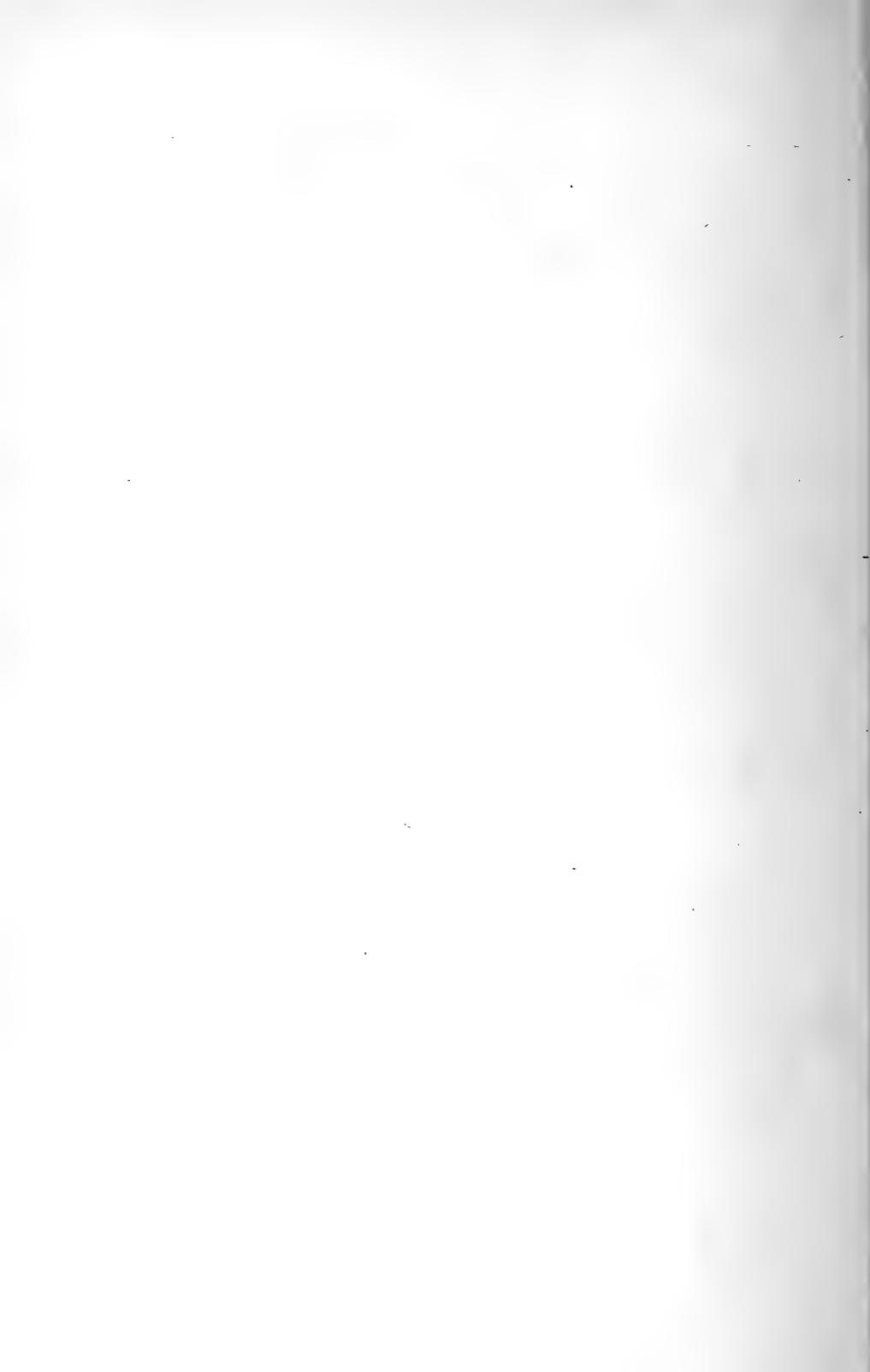
BY

C. V. A. PEEL, F.Z.S., F.R.G.S.

Author of 'Somaliland,' 'Wild Sport in the Outer Hebrides,' etc.



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P R E F A C E

THIS book is intended chiefly as a work of reference. As most Zoological Gardens are much alike, it is impossible to avoid a certain monotony in describing them. And yet each Garden has generally its own distinctive features. These I had the opportunity of observing in a tour which I made early this year, and I have tried to recount them in the following pages, after first giving the main facts connected with the foundation and development of the respective Gardens. In my descriptive walks round I invariably turned to the left on entering, and made my way round the Gardens back to the entrance again.

The chief thought that has occurred to me as the result of my tour is that we in England take little interest in the breeding and acclimatization of wild animals as compared with the Germans, or even Americans. Almost every large town in Germany has its Zoological Garden, and, as it usually contains a

concert-hall and other similar attractions, people flock to it, and are insensibly led to take an interest in the wild animals which they see around them. It seems to me a pity that we do not make our few English Gardens equally attractive. The result would be, I feel sure, that more people would become interested in wild animals, and probably many of our large towns would start Gardens of their own.

It is not generally known that most wild animals can be easily acclimatized, and, if properly treated, will breed well in captivity. The great secret is fresh air : animals which come from the equator do not require heat when once acclimatized. Just as human beings die of consumption through the want of fresh air, so do our anthropoid apes and other animals often die in captivity through being shut up, winter and summer, in hot-houses devoid of fresh air. We are far behind Germany and America in our knowledge of the breeding and cross-breeding of wild animals, and yet there must be many influential men in England who would assist in the formation of a National Park for such a purpose, thereby furthering the cause of science and conferring a great benefit on the nation. Our cousins in America have the Yellowstone National Park ; we ought to have a similar place.

My thanks are due to many gentlemen who have kindly favoured me with histories, guide-books, photographs, and general information about the Zoological Gardens of Europe. And especially do I owe a debt of gratitude to Dr. P. L. Sclater, the learned Secretary of our own Zoological Society in London ; to Herr Carl Hagenbeck of Hamburg, Dr. C. Kerbert of Amsterdam, Dr. H. Bolau of Hamburg, Dr. Seitz of Frankfort-on-Main, Mr. E. W. B. Villiers of Clifton, Professor D. Cunningham of Dublin, Herr Schöff of Dresden, Herr Meissner of Berlin, Dr. Hagman of Basle, Dr. Wunderlich of Cologne, and to Messrs. J. Jennison and Co. of Manchester. The photographs of Berlin are published by kind permission of the Berlin Zoological Society.

In some few cases it has been found impossible to give historical details, through my appeals to the Directors eliciting no reply. The sketch of the London Gardens is a concise summary, with additions, of the history written by Dr. P. L. Sclater, that of Dublin is taken from a pamphlet written by Professor D. Cunningham, whilst the history of the Manchester Gardens is based on materials furnished by Messrs. J. Jennison and Co.

In conclusion, my best thanks are due to my sister,

Mrs. Harry Duff, whose knowledge of foreign languages has enabled her to give me much valuable help in the translation of letters, guide-books, and catalogues of animals. Indeed, without her kind assistance I could scarcely have attempted this work.

C. V. A. PEEL.

OXFORD,
October, 1902.

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THE
ZOOLOGICAL GARDENS OF EUROPE

CHAPTER I

JARDIN DES PLANTES, PARIS: DIRECTOR, PROFESSOR
MILNE EDWARDS

THIS Garden, the father of Zoological Gardens, is the oldest of the Zoological Gardens of Europe.

Many of the greatest naturalists have been connected with the Jardin des Plantes, and have studied within its gates.

The botanical portion is more than one hundred years older than the zoological. It was founded in 1626 by Louis XIII., who bought a plot of uncultivated ground in Saint-Victor, twenty-four acres in extent, and laid out a flower-garden and built a little greenhouse upon it. Fagon, the King's doctor, Gaston of Orleans, Colbert, and Tournefort all helped it along, and caused the Garden to grow in extent and popularity.

A museum of natural history was established, and eleven professors appointed in mineralogy, botany, two courses of zoology, human and animal anatomy, geology, chemistry, etc. A library was formed in

the museum. On the death of the Duc d'Orleans in 1660, Colbert bought for the library the celebrated paintings of flowers on vellum by Robert.

In 1730 the Garden became neglected, but in 1732 M. Buffon became Director, and from that moment success was assured for them. He was well backed by M. Daubenton. Every year the Garden was improved, the old houses were demolished and new ones built. The whole of the ground was put under cultivation. Trees were planted, and the Garden extended to the bank of the Seine. Valuable gifts of plants, minerals and zoological specimens were received from the Academy of Sciences, Comte d'Angevilliers, Chinese missionaries, the King of Poland and M. Bougainville, who brought back from his voyage round the world a magnificent collection of animals and birds. Whilst Director of the Garden, Buffon wrote his *chef-d'œuvre*—a natural history—and after a splendid career he died in 1788.

Bernardin de Saint-Pierre was the next Director. In 1794 the large and valuable collection of the Palais de Versailles was offered to the Jardin des Plantes, and accepted on its behalf by Bernardin de Saint-Pierre. This collection contained five specimens which had never been seen in Paris before—namely, a quagga, now unhappily extinct, a hartebeest, a crested pigeon from the Isle of Banga, an Indian rhinoceros and a lion from Senegal, which latter had as a companion a dog, with which it lived on terms of the greatest friendship. The remainder of the collection at Versailles had been pillaged by the mob in the French Revolution.

In 1796 the Jardin des Plantes received a letter from Captain Baudin asking for a ship and men to convey to France a rich collection of animals and plants which he had gathered together in the island of Trinidad. A vessel was sent out, and, after being shipwrecked on the Canaries, the collection was finally brought home the next year. It was augmented by a collection of birds made by M. le Vaillant in Africa, and a collection brought back from La Guiana by M. Bragton. The Emperor Napoleon added several animals which he bought in England, and among which were a pair of tigers, two lynx, a mandril, a leopard, a hyæna, and a handsome panther, or hunting leopard, besides several birds and plants.

M. Fourcroi, who now made his appearance, collected for the institution animals, birds, precious stones, plants and books from all parts of the world. The collection of minerals of M. Warisse was bought, and 150,000 books were added to the library. The Emperor Napoleon during his wanderings never forgot the museum, and sent back to it fossil-fish from Verona and specimens of rock from the island of Corsica. M. Lesneeur, the painter and historian, and M. Peron brought back from the South 100,000 specimens of animals, large and small, representing many species. They brought home a zebra and a monkey for the Empress Joséphine and plants without number. About this time M. Cuvier, the celebrated naturalist, made his appearance ; M. Geoffroy arrived from Lisbon with new animals ; M. Michamx brought specimens from the forests of America ; and M. Marcel de Serres brought from Italy and Germany all sorts of minerals.

Great progress was made in the Jardin des Plantes until 1815, when there came a climax in France. Then commenced a series of miseries and an almost incredible history of disaster. Cossacks, Russians, Germans, and Italians filled Paris, and brought ruin and devastation with them; but, happily, of all the monuments of Paris, the only one which was not insulted was the Jardin des Plantes. The Garden was respected; it was neutral territory, where all sides came to seek rest from war.

In 1820 M. Milbert made large collections of natural history specimens and minerals in America for the Jardin des Plantes. In 1829 M. Victor Jacquemont appeared, and made a name for himself in natural history, but died when quite a young man in the island of Salsette.

In 1841 the Garden contained a zoological museum, a museum of comparative anatomy, a botanical museum, a geological museum and a museum of minerals. Besides a library containing 28,000 books devoted to travel and to physical and natural sciences, such as natural history, botany, physics, chemistry, mineralogy, comparative anatomy, human anatomy and zoology, there were memoirs of learned societies and a collection of paintings on vellum. This library was founded in June, 1793.

In 1841 M. Geoffroy Saint-Hilaire was Professor of Zoology, M. Brouguiart Professor of Botany, M. Serres Professor of Anatomy and Physiology, and M. de Mirbel Professor of Agriculture.

During the Siege of Paris in 1870 the Garden suffered terribly. Nearly a hundred shells fell within

its boundaries ; most of the glass-houses were battered to ruins, and a great number of the animals were, by the direction of the authorities, handed over to the butchers, killed and sold at fabulous prices. Lion, bear, giraffe and hippopotamus flesh realized 25 francs per pound during the last few months, and was very difficult to obtain even at that price.

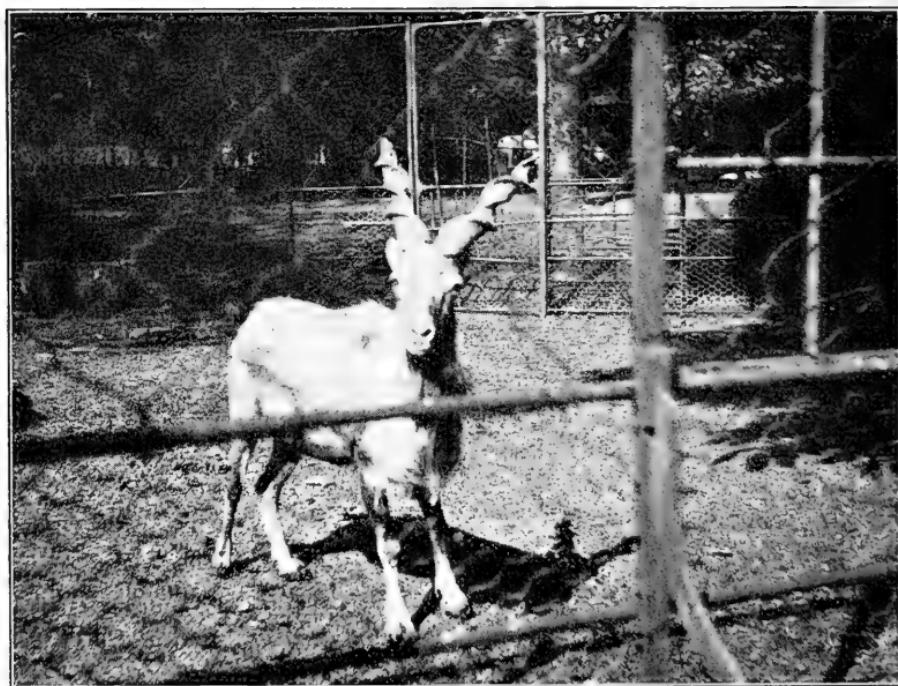
This Garden, which runs close by the side of the Seine bank, is open free to the public. It is somewhat of a bewildering place to find one's way about in. Its collection of animals is very fine, and contains two or three especially good things. There are some pretty spots in it, and plenty of trees and shade. A fine lion house of no less than twenty-two cages contains a good collection of the big cats and bears, a number of the latter coming from Tonquin. Besides these bears, there are others in old but well-built bear-pits in another part of the Garden. Again, we find a pair of hartebeests, so seldom seen in captivity.* Deer and antelopes, sheep and goats, are very well represented in the Jardin des Plantes.

I was busily engaged in taking photographs, when I was pounced upon by the inevitable gendarme, and was obliged to 'box up' in front of a large and sympathizing crowd. The elephant house contained three Indian elephants and one African, which is the largest to be found in captivity. Unfortunately, he has only stumps of tusks, and is, in consequence, not half such an imposing animal as the magnificent African elephant at Berlin. There was quite a number of zebras, in-

* A hartebeest has lately been added to the London Zoo.

cluding a mountain zebra with a foal, born in the Gardens, and a hybrid between a zebra and a kiang (*Equus hemionus*). There was a good collection of swine, including a Red River hog and an enormous European boar.

There were crowds of people in the Garden, and no wonder, for seldom is such a fine collection of animals to be seen without paying anything.



MARKHOR, JARDIN DES PLANTES, PARIS.

According to the *Matin*, palatial accommodation is to be provided for the animals in the Jardin des Plantes. The new premises will consist of a series of rotundas, or gigantic cages, 15 metres high, which will be reserved for the pachyderms. A laboratory of animal psychology for the study of character among

the brute beasts is shortly to be opened under the direction of M. Hachet Souplet, assisted by M. Oustallet. It has also been arranged by M. Perrier, a Director of the Gardens, to give popular lectures in the amphitheatre every Sunday afternoon.

CHAPTER II

JARDIN D'ACCLIMATATION, PARIS : DIRECTOR,
M. A. PORTE

IN 1858 a concession of about forty acres was made in the Bois de Boulogne by the city of Paris to five members of the bureau of the Société d'Acclimatation. The Emperor Napoleon III. enlarged upon this concession by a gift of a further ten acres. A subscription was then opened, with a capital of a million francs divided into 4,000 shares, most of which were taken up by the members of the Société d'Acclimatation, who, after having conceived the idea of the Garden, wished to endow it handsomely.

After the preparatory plans had been made by M. Davioud, the resident architect of the city, and approved of by the council of thirty-four of the principal shareholders, the work was begun in July, 1859. The arrangement of the work, under the surveillance of a committee chosen by the members of the council of administration, was entrusted to Mr. D. W. Mitchell, the Secretary of the Zoological Society, London, who had come to offer his services for the creation of the new undertaking. On the sudden death of Mr. Mitchell in November, 1859, the committee took upon themselves the management of the work.

In fifteen months the work was finished. On August 1, 1860, Dr. Rufz de Lavison, late President of the General Council of the Martinique, was appointed Director of the Garden, whilst M. Albert Geoffroy Saint-Hilaire, the joint Director, busied himself with the hygiene and propagation of the animals. On October 6, 1860, the Emperor inaugurated the new institution in person, and a few days later the public were admitted.

In 1865 Dr. Rufz de Lavison died, and M. Albert Geoffroy Saint-Hilaire was made Director of the Garden.

When the Siege of Paris became imminent, the majority of the animals were deposited in the Zoological Gardens at Brussels ; others were confined at Antwerp. The rare birds were sent to Tours ; some to M. Barnsby, Director of the Botanical Garden in that city ; others to M. Cornély van Heemstra, owner of the Château de Beaujardin. During this sad time an enormous amount of work was done, the animals being transported as quickly as possible. On September 4, 1870, this evacuation began, but it was brought to a stop five days later, as the trains then ceased to run. On the other hand, M. Milne Edwards graciously offered to take into the Jardin des Plantes part of the collection of animals, on condition that they were provided with sufficient food. From that moment, and during the whole of the siege, the Garden, situated as it was outside the fortifications, went well through the sad and sudden changes of fortune.

The famine which ere long besieged the city then

demanded the sacrifice of all the animals. One can imagine what it cost the keepers, who were so attached to the animals they fed, to have to kill the two elephants, Castor and Pollux, the beautiful antelopes, the camels, etc. Nevertheless, when peace came, the animals which returned from the places where they had been deposited were still numerous enough to restock the Garden and put a little life into the place so long deserted.

The collection had scarcely been reinstalled in the Garden when the insurrection of the Commonwealth broke out. This time the Jardin d'Acclimatation was in the very middle of the tempest, and for nearly two months bullets and shells fell night and day in its very midst. The officials remained faithful to their posts, and hid themselves in cellars, from which they emerged when they were able during moments of calm—too short, alas!—to attend to the wants of the animals and plants. In this way, from time to time, they ran the greatest danger. The gate-keeper, Decker, was killed by a bursting shell; the gardener, Loubriam, succumbed to wounds which he had received; Lemoire, one of the keepers of the animals, and Lombard, the carpenter, were wounded. Troops of regulars and bands of insurgents frequently met in the very heart of the Garden, which was furrowed by trenches and defensive works. The volunteers of the Seine and Oise and the federates fought two serious engagements in it. A number of animals were struck by the bullets, the fences and battlements being pierced by them.

The Jardin d'Acclimatation was very greatly dis-

turbed by this terrible crisis, and people doubted whether it would ever recover itself.

The Municipal Council and the Ville de Paris happily understood what an interest the Garden had been, and would not allow such an establishment to disappear. They came to the succour of the shareholders by generously voting an annual subscription of 60,000 francs for three years ; moreover, the Société d'Acclimatation gave a sum of 35,000 francs and all the animals which it possessed. M. Saint-Hilaire, whose activity and energy had increased in spite of obstacles, received anxious inquiries and marks of sympathy from numerous donors, which hastened the reconstruction of the devastated collections. His Majesty the King of Italy offered two African elephants to replace the two killed during the siege ; the venerable M. Westerman, the Director of the Garden at Amsterdam, M. Jacques Vekemans, the learned and sympathetic Director of the Garden at Antwerp, and all the zoological gardens in England and in Belgium added their generous gifts, and contributed largely towards the reinstallation of this beautiful Garden, which had been so cruelly tried. Numerous improvements were voted by the council to suit the requirements of the animals and to please the public. New sheds were built for the goats and sheep, enclosures made for breeding ducks, and a new stable and large dog-kennels were constructed, which were opened shortly afterwards ; the dairy service was organized both in the Garden and in the centre of Paris. Depots, where pure milk could be bought, were established at Chevet's and at the Palais Royal. A building for the

fattening of poultry for the table was given over to a clever breeder of the department of Allier, who brought the whole of his stock-in-trade to the Garden. Animals were lent by several members of the society. In one of the outbuildings of the conservatory a library was opened, where visitors could find natural history works to interest them. Discussions began again, on two days a week—Thursdays and Sundays; concerts, under the direction of M. Mayeur, were held in the afternoons on one of the lawns in the Garden.

At last a new era of prosperity had opened in the *Jardin d'Acclimatation* in the *Bois de Boulogne*. From the time it was opened to the year 1873 more than 200,000 people had signified by their presence the just popularity which the Garden had acquired.

Besides the Garden in the *Bois de Boulogne*, the *Société d'Acclimatation* has other establishments under its control—one at *Hyères*, one at *Chilly-Mazarin*, near Paris, one at *Pré Catalan*, and another at *Marseilles*, in the South of France.

The *Succursale* at *Hyères* is set apart for the cultivation of plants, palms, and trees from hot climates, and these always command a ready sale in Paris for the ornamentation of parks and houses. At *Pré Catalan*, in well-kept houses, are to be found sixty dairy cows, which are to be seen in summer grazing in the paddocks and fields of the *Bois de Boulogne*.

At *Chilly-Mazarin*, on a plot of ground some acres in extent, an overflow establishment was instituted in 1891. Here are to be found dog-kennels, cow-houses, stables, pheasantries, poultry-houses and agricultural products. At *Marseilles* the Society has

another Zoological Garden, in which imported animals rest and get acclimatized before being sent up to Paris.

The Jardin d'Acclimatation is situated in that part of the Bois de Boulogne which extends between the Porte des Sablons and the Porte de Madrid, and runs



SEA-LION SUCKLING ITS YOUNG, JARDIN D'ACCLIMATATION, PARIS.

along the Boulevard Maillot. The principal entrance is in the east, near the Porte des Sablons; a second entrance is to be found in the extreme west, near the Porte de Madrid. You can reach it either by the Central Railway, getting out at Neuilly Station or at the Avenue de l'Imperatrice, or by the Courbevoie and

Suresnes omnibuses, or, of course, by cab. On concert days there is a special service of omnibuses.

Two prominent stone-and-brick buildings will direct the visitor. After having passed the turnstile, you find in front of you a large carriage-drive, which goes right round the Garden, and from this principal artery the whole network of walks and paths runs through the Garden leading to the different sheds and houses. The visitor finds on his immediate left a large conservatory or winter garden, which shelters from the rigour of winter a beautiful and important collection of plants and trees, which would not live in a low temperature.

Almost in front of this large conservatory you see a building, which is intended for the mechanical fattening of fowls (a system not to be encouraged). Here is to be seen on a big scale M. Martin's system. The fowls are placed in a huge circular cylinder, three metres high and turning on a pivot, which allows the man to cram all the fowls (which are placed in the boxes ranged in tiers one above another) in this fattening apparatus without changing his position. A car on an elevating rail allows the man easily to reach those birds placed on the highest part of the apparatus, for, by turning a handle, the car rises or descends in front of the boxes. Holding them by the head, he introduces an indiarubber tube into their beaks, and forces the food down their throats by pressing with his foot a pedal, which starts a machine worked by a piston. The play of this pedal is regulated by a dial-plate, which shows the operator the amount of food introduced. This varies according to the strength of the bird to be fattened, and also to its state of fatness.

In eighteen days a fowl will go up to more than double its weight, and will be perhaps a pound more at the finish. M. Martin, the inventor of this ingenious system, which allows a man by himself to cram 400 fowls in an hour, had already used it in the department of Allier, at Cusset, near Vichy, and his products, under the name of 'Phoenix fowls,' have acquired notoriety. He then asked the Society of the Jardin d'Acclimation to allow him to construct at his own expense in the Garden a model of his fattening establishment, which he started at his own risk. Visitors can now procure at this establishment fat fowls all ready for the table.

Following on the right a large circular walk, you find, after the fattening establishment, sheds where all kinds of rural and agricultural objects are shown. Here the public can see buildings of every sort applicable to the farm: Swiss cottages made of cut wood, tents, wire-lattices, aviaries, chairs, tables, and garden-seats, elevators, garden-tools, guns and fishing tackle, porcelain and terra-cotta vases—in short, everything which tends to ornament parks and gardens, or to the culture of plants, or the raising of stock. On leaving the exhibition sheds, the first building which catches the eye is the monkey house, in front of the enclosure for storks and river-birds; then you come on the right to the pheasantry, the parrot aviary being attached to a little pheasantry, and on the other side of the way are the ostrich and large-bird enclosures. The large pheasantry follows these, then the upper pheasantry, and next the poultry house, an immense circular monolith building in Coignet mortar, in which there

are also enclosures for different sorts of pigeons. On the left are the enclosures of the sheep and goats. After passing the duck-ponds you reach the kangaroo house, and on the left the cattle enclosures. Here the broad road round the Garden divides itself into two ; to the right it leads to the Neuilly Gate and Saint James, to the left to the big stable, before which stands a spacious lawn, where the large ruminants graze during the day. Round this lawn the elephants and horses, with various carriages, carry visitors and children. Continuing to follow the big circular road, you find on the right, a little behind the stables, a collection of vines (the most beautiful and most complete in the world), the bee-house, the dairy, and the refreshment-room ; to the left, the huts of the llamas and alpacas, the moufflon rock and the antelope house. Next, you visit the aquarium, situated on the right of the large circular road, and then the experimenting garden and the dog-kennels, which face the deer enclosures. Having returned to the big conservatory close by, you find another conservatory full of paroquets and small cage-birds from hot countries.

The middle of the Garden is cut by an artificial river, upon the banks of which are placed enclosures for geese, ducks, and water-birds. It forms in front of the lawn of the big conservatories a large lake covered with swans, flocks of ducks, some cormorants and seals.

The monkey house is an oblong building 15 metres long and 9 metres broad. The walls are covered with earthenware slabs. In front of the building is an immense cage, where the strongest of the monkeys can

take the air and enjoy themselves on the beams and ropes, which take the place of the trees in their native forests, during the warmest hours of the day. On entering by doors which are arranged to keep out draughts, the interior of the monkey house is found to be a large hall, in which are placed four huge cages reaching almost to the ceiling, and which communicate with the exterior pleasure cage by means of large doors. Against the walls are placed little wooden cages, in which are put those delicate specimens which require special care.

Besides the quarters of the keeper, there is an infirmary for sick monkeys. Heat is supplied in winter by hot-water pipes running under the floor, which keep an even temperature without drying up the air.

Attached to the large conservatories is a spacious hall, the *grande salle*, measuring 40 metres in length, and being able to accommodate 8,000 people, half of whom can sit down. On the ground-floor, opposite to the entrance-door, is a large stage, upon which lecturers entertain the public several times a week with a magic-lantern, the subjects being Zoology, Ethnology, Travel, Botany, etc. On Sundays and Thursdays a first-class band gives popular concerts, which attract a great number of people to the Garden.

On the west of the hall is an aquarium and a bird-gallery, which were opened to the public at the end of 1892.

To the right of the principal entrance is a room, built in 1887, for the sale of a great variety of vegetables and plants.

Continuing to the right, and passing the exhibition

hall and the shooting and fishing museum, which have been described, we come to the new sale gallery, a large hall 30 metres long, in which are displayed more agricultural implements, carriages, harness, carts, iron rails, wooden fencing, and everything appertaining to the care of animals and plants—all to be sold at very reasonable prices. A catalogue can be obtained free of charge.

Communicating with the new sale hall is a parrot and small bird gallery. Passing the monkey house, we find large wooden constructions, holding the peacocks, the turkeys and fowls of many kinds, such as Houdans, Dorkings, etc. In this part of the Garden are to be found pretty little rustic buildings containing various birds. In one of them are to be seen the great horned owls which belonged to Gustav Doré, the celebrated artist. In another little pavilion is a Norwegian hawk. In an enclosure bordering on the main walk is to be seen a beautiful collection of cranes from all parts of the world. In the same enclosure are the cassowaries, ostriches and the South American rheas, which latter frequently breed in the Garden.

The pheasantries, which contain more than twenty pens, are occupied by such varieties as the Amherst pheasant from Thibet, Elliot's pheasant from China, the Versicolor from Japan.

We now come to the great aviary, part of which holds the scarlet ibis and the rare stilts, and the other half contains peacocks and large game-birds. In front of the large aviary are the pens of the doves and partridges. Facing the pheasantries is a statue of Daubenton, by Jules Godin Daubenton, who died in

Paris in 1880. It was to the efforts of this scientist that France owes the introduction of merino sheep. This beautiful statue is placed opposite the sheep pens, so that the gentleman can still have his eye on the Ty-ang or Chinese sheep, the grey sheep of Russia, and the Astrakan sheep, which furnishes such a beautiful fur. Not far from here is some rockwork executed by M. Teiton, through which runs a little river. Every day at a fixed hour the cormorants are made to fish. The throat of this bird is encircled by a collar, which prevents it from swallowing the fish which it has caught at the bottom of the water. In China these birds are used extensively for fishing.

On the right, following the pheasantries, we come to the poultry house, a monolith building in mortar in a semicircular shape. Here are to be found the following among many other varieties: La Flèche, Mans, Houdan, Bresse, Campine, Dorking, Cochin China, Langshan, Brahma, etc. The eggs form an important article of commerce in the Garden. The pens of the poultry house also contain the largest collection of pigeons ever brought together. Mention must be made of the carrier pigeons, the descendants of those birds which during the Siege of Paris carried no less than 115,000 messages microscopically photographed on bits of collodion which weighed next to nothing.

On the edge of the lake is a large and elegant pigeon tower, made of brick and iron, 30 metres high and 6 metres in diameter, and divided into four stages. The interior is divided into coops for 400 couples of pigeons. The top is reserved for those pigeons which, born in the place, are allowed their liberty, and are

employed in summer to carry messages. The top of the tower is furnished with a meteorological apparatus, which records on registering cylinders (placed at the bottom of the tower) the state of the atmosphere. This apparatus constitutes a veritable observatory in itself. In it there is a barometer, a thermometer, a rain-gauge, a wind-gauge, a hygrometer, and several other instruments.

The kangaroo house next engages our attention, where are to be found examples of the red kangaroo, Bennet's Wallaby, etc. Many breed here. The enclosures which surround the kangaroos contain many species of deer. There is the deer from the Moluccas, sika deer from Japan, the axis deer from India, etc. Close by are coach-houses and stables capable of holding ninety horses. These recently erected buildings, together with the old stables, can now hold 250 horses, which form a very complete collection. Here are to be seen also an interesting series of ponies from Java, Siam, Cochin China, Shetland, Ireland, Russia, Corsica, Navarre, Finland, etc. There are also many mules.

At the end of the stables is a riding-school for the breaking-in of horses and the teaching of riding. In 1874 a special riding - school was inaugurated for children, their mounts being all little ponies. Close to the stables is a gymnasium, with horizontal bars, trapeze, ropes, etc., which is for the free use of children, who amuse themselves in it whilst they wait their turn to ride the elephants and camels. The charge for a camel or dromedary ride is 50 centimes; elephant ride, 25 centimes ; ostrich-cart, 50 centimes ; donkey-

cart, trotting zebu-cart, goat-cart, and llama-cart, 25 centimes; saddle-horse, 50 centimes. Tickets are obtained at a kiosk close by.

The African elephant Juliette was a present from Victor Emmanuel, the late King of Italy, together with Romeo, who died in 1886. It will be remembered that these elephants replaced Castor and Pollux, which were sold to the butchers for 27,000 francs during the Siege of Paris in 1870. Close to the large stable is a house containing the yaks from Thibet. The cross between a yak and a zebu is called a 'dzo.' In the large stables are to be seen the South American tapirs and the wart hogs from Africa. Burchell's zebra and a pretty 'mountain' zebra are found in the same building. By the side of the zebras are the kiangs from High Asia and Mongolia. There are also many hybrid animals and 100 guinea-pigs in one loose-box. The right side of the big stables is inhabited by a large giraffe; this is the last survivor of a herd received from Abyssinia in 1872, which has bred several times in the Garden.

On the other side of the main road is a large lawn, which serves during the day to pasture the large ruminants. Here are held the yearly exhibitions.

The following exhibitions have been held: In 1877, the Eskimos and Nubians; in 1878, the Laps and Russians; in 1879, the Nubians; in 1883, the Cingalese and Red Indians; in 1886, the Cingalese; in 1887, the Ashantis; in 1888, the Hottentots, Cossacks, and Circassians; in 1889, the Laps and Norwegians; in 1890, the Somalis; in 1891, the Dahomeans.

We next come to the llama house, which includes

specimens of guanaco and vicuna, the llama and alpaca. The reindeer enclosure follows. Behind this, again, are the moufflon and chamois rocks ; a grotto cut out of the rock shelters the goats from Chili. Below the rock are lodged the graceful Indian antelopes. Between the rock and the aquarium is a construction with a deep basin, in which live the otters and seals. The otters, which were presented in 1891, are very tame. At the word of command they hop up to the top of a rock and take headers into the water. Opposite the otters' tank is the cow house, holding forty cows, the little dairy at the side being much frequented during summer, when as many as a thousand glasses of milk are sold in a day. Close by the dairy is a picturesque enclosure of lawn and rockwork, inhabited by a herd of over twenty black buck of all ages. It was an amusing sight to watch them frisking and scampering about after the manner of the springbock of Africa.

The aquarium, situated on the right beyond the dairy, contains ten large tanks of sea-water and four tanks of fresh-water. These basins are made of slate, with one side of glass. They receive light only from above, and in them are to be seen the octopus, shrimps, anemones, soles and plaice. Many of the fish grow tame to a remarkable degree, and know their keeper well.

At the end of the aquarium is the fish-culture pavilion, in which one sees in transparent tanks a very complete collection of fresh-water fish and the most perfect apparatus in connection with fish culture. Every year the establishment incubates a considerable number of salmon spawn. Visitors can follow the operations of artificial fertilization of several species

of trout, including the American rainbow trout. After the aquarium, in front of the concert kiosk, we find the restaurant, where we can have refreshments at fixed prices under large trees.

Facing the aquarium is a large glass enclosure surrounding the antelope house, in which can be seen the Indian nylgai, which breeds well; the eland,



HERD OF BLACKBUCK, JARDIN D'ACCLIMATATION, PARIS.

looking amongst the trees as if it was in its native haunts; the gnu, which looks half ox, half horse; the *Oryx beisa* from Kordofan; a gazelle from the Soudan. And then comes a surprise, for in the same pen with several Patagonian cavies are no less than four hartebeests, one of which was born in the Gardens, August 15, 1901. Next we come to the deer house,

with the wapiti from America, the axis deer from Siam, Père David's deer, and others.

On the other side of the main drive, and opposite the deer, is a large dog-kennel, containing dogs of every description. Here a large exhibition has been held every year since 1863, and dogs can be bought at fixed prices.

Facing the dog-kennels is a special library, given to the Garden by Dr. W. Evans, of Philadelphia, where are to be found all the papers and publications on agriculture, zoology, travel, domestic economy, etc. In one of the rooms in this building all the Parisian newspapers and magazines are on view.

The pond, which divides the Garden into two nearly equal parts, contains ducks of all kinds, swans, and pelicans. On the left bank of the pond is the concert kiosk, where good concerts are given from April till the end of September by an orchestra of twenty-four performers under M. Mayeur, of the Opéra, who has conducted it since 1872.

Many of the puppies and birds in the Garden are for sale at fixed prices. I quote the following from the catalogue :

			Stud Fee.		Puppies (Average).	
			Francs.		Francs.	
Great Danes	...	...	50	...	...	100
Pomeranians	...	...	10	...	...	40
Bull-terriers	...	...	20	...	...	40
Basset hounds	...	...	25	...	...	50
English setters	...	...	50	...	...	120
Red Irish setters	...	...	50	...	...	100
Cocker spaniels	...	...	50	...	...	50
English greyhounds	...	...	30	...	...	75
Bloodhounds	...	...	30	...	...	60

Hares (white) old ones : Male, 25 francs ; female, 35 francs ; young, 15 and 25 francs each.

Rabbits : Adults, 15 francs ; young, 10 francs.

Paroquets, from 40 francs to 150 francs.

Parrots, from 10 francs to 75 francs.

Canaries, 17.50 francs.

Toucans, 150 francs.

Ordinary crow (white variety), 20 francs.

Pigeons, from 3 francs to 100 francs.

Wild poultry, from 8.50 to 20 francs.

Turkeys, 30 francs.

Pheasants, from 20 to 150 francs.

Red partridge, 12.50 francs.

Domestic poultry: Bantams, 20 francs ; Brahma-pootras, 30 francs ; Cochins, 30 francs ; English gamecocks, 50 francs ; Dorkings, 30 francs ; Houdans, 15 francs.

Rose-coloured flamingoes, 125 francs.

Ducks, from 15 francs to 75 francs.

Cormorants, 75 francs.

Swans, from 25 francs to 275 francs.

Pelicans, 125 francs.

Domestic ducks : Aylesbury, 17.50 francs ; Labrador, 12.50 francs ; Rouen, 20 francs ; Yeddo, 30 francs.

Loch Leven trout, rainbow trout, salmon, etc., are for sale.

This is a very large and beautifully laid out Garden, and I was allowed to photograph in peace, though, oddly enough, I had no sooner got outside the wood than I was pounced upon by a gendarme and asked to explain the contents of 'that box.'

CHAPTER III

THE ZOOLOGICAL GARDENS, MARSEILLES

THESE Gardens, which are worked under the control and direction of the Jardin d'Acclimatation at Paris, contain a collection of both useful and wild animals, many of which are bought and sold here. The Gardens also serve as a resting-place for the animals which the Jardin d'Acclimatation imports from the far East and exports to the hot regions by the Mediterranean. The animals remain and get acclimatized before they are sent on further north to Paris.

Shrubs and plants are also grown, and by their situation behind the Palais de Longchamp the Gardens constitute one of the most attractive promenades in Marseilles.

One of the entrances to the Gardens is through a most magnificent set of buildings, having a large cascade of water in front. This imposing building is called the Palais de Longchamp, and contains an art museum and picture-gallery. On passing through the gate, and going up two flights of steps, you come into a large garden above, and, keeping to the right, you fall in with the pay-gate to the Zoological Gardens.

It must, however, be borne in mind that the quickest

way to reach the Zoological Gardens is by an ever-ascending electric tram-car, which finally lands you right in front of the ordinary entrance-gate. On arrival there, you put a franc into a sort of missionary-box made of tin, and are ushered through into the Gardens by the gate-keeper. You are at once confronted with a pretty little grotto arrangement, down the rockwork of which trickles a waterfall. In the



LE PALAIS LONGCHAMP, MUSÉE DES BEAUX-ARTS, MARSEILLES.

basin at the foot of the fall are a number of flamingoes wading about and feeding.

The Gardens will be found to lie upon a steep hill-side, upon which walks and terraces are cut one above another. On the second terrace you find a grotto, with another waterfall higher than the one below. This grotto is extremely picturesque, the situation of the Garden on the hillside lending itself well to this form of garden decoration. Here, at the foot of the

second grotto, are to be seen some white swans with black necks, and some pretty black ducks with dark-green heads. It was a cold February day when I visited the Gardens, but, to show how early is the breeding season in the South of France, I may say that the ducks were already beginning to pair.

On the right the visitor will come upon three cleverly-constructed cages of a circular shape, backed with rockwork. In this rockwork are the sleeping apartments of the animals in the cages. These sleeping apartments have doors communicating with the outer cages, so that when rain or wind comes the animals can find shelter. The cages have been cleverly thought out, and are extremely picturesque.

The inmates of the first cage were two lionesses. I wished to get close to the bars in order to obtain a photograph of these big cats without showing the iron bars, but as a man was intently watching my proceedings, I thought it best not to venture over the barrier. I was unable to make out whether he was one of the keepers or perchance a French officer, and could not make up my mind whether I would offer him a franc to let me go closer or not.

In the next circular cage was a most amusing polar bear. His keeper happened to come along, and he dropped some large pieces of bread into the water-tank for him, but, strange to say, the bear would not go in after them. However, after vainly endeavouring to reach them with his outstretched paw, he made a spring, and stood crossways over the tank, with his fore-paws on one side and his hind-paws on the other, where he stood like a white stone bridge stretched

over a river, and, bending down his head between his fore-paws, he seized each bit of bread in his mouth and tossed it on to dry land ; then, springing back, he devoured it greedily. When he had finished every bit, he came to the front of the cage within a few feet of me, and obligingly sat up to be photographed.

Next to the bear were a pair of extremely handsome leopards in very good coat. They growled and snarled and showed their teeth at one another, and pretended to fight, but in reality this was only their rough-and-tumble way of flirting with each other. After all, are not some human beings just the same ?

Further to the left you find a picturesque little pagoda for the elephant, with a space railed off in front in which he can take air and exercise and have a cooling bath in the deep water-tank.

Crossing a bridge over the street below, we come to a long viaduct, under each arch of which is an enclosure for birds or animals. On the extreme right was a mouflon, which also obligingly stood up with its fore-legs on the rail in front of it in order to have its picture taken. This animal's legs were somewhat deformed, and stretched outwards from the knee, giving it the appearance of being knock-kneed. Next to the moufflon, under the second arch of the viaduct, were a camel and a zebu housed together. On the left of them was a pair of nylgai (Indian antelopes), male and female, which appeared to be in the very best of health and condition ; but I should say they could not have been long in the Gardens, as they were so wild, and whenever I moved the male raced about its enclosure, whilst the female retired into its shelter-

shed, unlike the very docile pair in the London Zoological Gardens, which will feed from your hand. By the side of the nylgai, but separated by a wire fence, raced up and down a fine Barbary sheep, whilst his wife and child lay down close by taking things easily.

The next enclosure contained a very pretty sight—a red-deer stag, hind, and calf making a very picturesque group when standing up together. Under the remaining arches were enclosed some large birds of prey. Just opposite the arches on a bank is an enclosure where was to be found a pure white llama, with its baby, a youngster about six days old. Another Eastern pagoda and railed-off enclosure contained a very fine Bactrian camel. There were many smaller mammals, such as coatis, lemurs from Madagascar, wolves, jackals, a European wild-boar, etc., besides many enclosures of birds, including a pheasantry, tenanted for the most part by domestic fowls, peacocks, French partridges and an occasional golden and Lady Amherst pheasant. In one pen you will notice French partridges running with a Lady Amherst pheasant.

There is a small monkey house with outdoor cages, furnished with wooden railings for the amusement of the inmates. These outdoor cages are connected with the interior cages by little square doors.

I must not forget to mention a large brown bear in a very picturesque bear pit made of rockwork, with a front of stout iron bars.

One of the inmates of a row of sheds devoted to small animals was a caracul, or African lynx, in very good coat and condition. When in Somaliland, North-

east Africa, in 1897, I captured one of these beautiful cats in the mountains, but unfortunately it escaped two days afterwards. The face of this animal is very like that of the American puma, whilst its ears are long and very pointed, and are furnished with tufts of black hair at the tips.

The second day I visited these Gardens it snowed, and the light was so bad that I did not attempt to take any photographs. As on my approach I found nobody at the entrance-gate, I walked in. Apparently there is no fixed charge, but a man usually jingles a tin box before you, and you can put what you like into it. I saw the Marseilles Gardens under the most unfavourable circumstances; still, on the finest day I do not think anyone would be very much impressed by them. The laying out of the Gardens on a bank is pretty, and the rockwork and the waterfalls very picturesque, but the show of animals and birds, on the whole, is small and somewhat poor.

I had a short talk with one of the keepers, a stern man with a gloomy countenance and few words. I did not gather much information concerning the Gardens, but I raised one laugh out of him when, wishing to know when the animals were fed, I asked : 'A quelle heure est la table d'hôte des animaux ?'

CHAPTER IV

THE ZOOLOGICAL GARDENS, NICE-CIMIEZ : DIRECTRESS, THE COMTESSE DE LAGRANGE

THESE prettily situated Gardens are well worth a visit, if only for the magnificent views obtainable from them. They can be reached from Nice by excellent electric tramcars having first and second class compartments. (Why are tram-cars so very much better abroad than in England ?) Close by the Gardens is the fine Excelsior Regina Hotel, where our late Queen Victoria used to stay. The rooms in the hotel should be visited on the way back from the Gardens ; an excellent lunch can be had there, for the cooking is truly first-rate.

The Zoological Gardens were founded by the late Comte de Lagrange, a great traveller and naturalist, who died in 1893 at Singapore, at the early age of thirty-six. His widow, the Comtesse de Lagrange, is now sole proprietress and directress.

The entrance fee is one franc, and one franc for a carriage ; the latter fee can be saved by alighting at the entrance and simply walking in on foot.

The Gardens are of small extent, and the whole of the animals and birds can be seen in a very short time.

As at Marseilles, I experienced the most shocking weather at Cimiez, and the first day not a ray of sun shone, whilst a shower of rain almost gutted my camera. There is a nice collection of lions at this Zoo, and they form quite the greatest attraction of the place. The old mother, which is to be seen in a cage close by a large tiger, has produced three litters of young, all of which are now to be seen in the Gardens. The father of these lions died at the age of seventeen. The children of this pair comprise two lions three and a half years old, three lions two and a half years old, and three lions fourteen months old. All these eight animals are extraordinarily tame and healthy-looking. I was enabled to stand right up against the cages, without the slightest fear of getting mauled, in order to photograph them. One of the oldest lions allowed me to stroke him; and when I put my face up against the bars, he at once licked it with his rough tongue—a perfect feline kiss. I was perfectly charmed with these lions, and was quite loth to leave them. In another set of cages was a common leopard, and the invariably savage black variety, with its beautiful yellow eyes and snarling jaws. It is a curious fact that these black leopards are nearly always savage. There were two brown bears and a polar bear in pits opposite the young lions, and a poor old brown bear, totally blind, in a pit by himself. There was a very handsome old 'black buck' from India, with a younger one much lighter in colour. It was comical to watch them at play, butting at each other with their horns. It is often extremely difficult to photograph these creatures in confinement, because they are so tame. This sounds

odd, but the difficulty lies in the fact that the animals, expecting to be fed, will insist on coming close up to you to the bars, and utterly refuse to go away, in spite of shouts, hisses, showers of stones, and prods with umbrellas. One cannot go back one's self with the camera, or the bars or wire-netting will show in the photograph, and look unsightly. Oddly enough, the bars or wire-netting do not show in the photograph when the camera is held close up against them.

An ostrich and its baby could be seen near a rather mangy duckpond. There were also some monkeys, animals I am not fond of; they are too much like human beings. But one of them was amusing. When a man said 'Salût' to him, he saluted in proper military fashion; but if a woman asked him to do so, he would do nothing of the sort, but would snarl and show every symptom of anger and annoyance. He was, like some really good military men, a true woman-hater and despiser.

On the second day I visited the Cimiez Zoo I was more lucky in the weather, for it was a lovely sunny day. On the way there I was obliged to run the gauntlet of scores of masqueraders, as the Nice carnival was on. They threw hard pellets of clay with great force into my face, and I can assure the reader they hurt considerably. Nearly every other person I met wore a wire mask to protect himself from these attacks. At length the very excellent electric tram was reached, which soon brings one up to the Zoo. The head keeper, Andruetto François, is a very genial and chatty man, and helped me a great deal in taking photographs of all the lions, of which he seemed

immensely fond and proud. I took him in the lion's den, and a very pretty picture of a fine lion in the act of kissing him was unfortunately spoilt in the developing.

At the back of the lion-cages was a side-show, given by Richard List from Hamburg, who performed twice daily with a 'happy family' of lions, tigers, leopards, bears, monkeys, dogs, etc. Close by were a pair of extremely pretty white goats, a rather mangy camel, a bull zebu or Indian sacred bull, some eagles, and a picturesque duckpond.

The Gardens certainly looked better bathed in sunshine, and the view of the Alpes Maritimes seen from them was superb.

CHAPTER V

ROYAL ZOOLOGICAL GARDENS OF THE SOCIETY OF ZOOLOGY, 'NATURA ARTIS MAGISTRA,' AMSTERDAM : DIRECTOR, DR. C. KERBERT

THE Zoological Gardens at Amsterdam are the third oldest institution of their kind in Europe, the Jardin des Plantes coming first, and the London Zoological Gardens second. Besides the Gardens of the Society of Zoology, 'Natura artis magistra,' Amsterdam possesses a large Aquarium, a Zoological Museum, and a Scientific Library of Natural History.

Encouraged by the success of the Zoological Gardens in London, M. G. F. Westerman of Amsterdam conceived the idea of founding a similar institution in his native town. However, his initial efforts in 1836 failed. At length an opportunity presented itself. M. R. Draak, a great student of natural history, who possessed an important private collection of stuffed birds, fishes, etc., valued at 8,000 francs at least, wished to transfer them into more spacious quarters. In order to achieve this, he sought the assistance of M. Westerman, known throughout Europe for his interest in natural history. He, on his part, always ready to assist anyone fond of natural history, succeeded in obtaining a site in 1837, and built and

arranged a natural history museum upon it. It was opened to the public for a small entrance fee the same year. In spite of great efforts, the enterprise flourished but little ; but, aided by two friends, M. Westerman bought other large buildings, and laid out some beautiful gardens, which he thought would be more attractive to the visitors. When in possession of these gardens,



CONCERT-HOUSE AND LAKE, AMSTERDAM.

the proprietors tried to give more force to their enterprise by addressing the following circular to the inhabitants of Amsterdam :

‘ NATURA ARTIS MAGISTRA

‘ A society has been formed under this title, having for its object the study of natural history in an agree-

able and attractive form, not only by exhibiting stuffed animals, but also by a collection of living animals and birds.'

In a very short time 120 persons, whose numbers quickly rose to 400, gave their services and help to the enterprise, and were inscribed as members of the Society, paying an annual subscription.

Encouraged by this first success, the Council decided to negotiate for a loan, with part of which a convenient site was arranged to receive the collections of M. R. Draak. Gradually the number of members of the Society rose, and in 1839, with the authority of the general assembly, the menagerie of C. van Ascen, at that time well known, was bought. Bitter disappointment was, however, caused when the Council, who had asked permission of the municipal authorities to build further houses on their grounds for the animals of the above-mentioned menagerie, were given permission, but on such bad terms that their request was to all intents and purposes met by a refusal. With much regret, the Society was therefore obliged to lodge the animals provisionally in some barrack-stables.

However, little by little other buildings were acquired, with large gardens, and the collection of living animals and objects for the museum was enriched both by generous gifts and by purchases.

In 1840 the Society numbered 700 members, and in 1841 the number rose to 1,000. The members then agreed to pay double the former subscription—*i.e.*, twenty francs. The grounds had now increased to the extent of three and a quarter acres. In 1843 M. Wester-

man, at the request of the Council of Administration, was put at the head of the Society, and accepted the entire control of it, which, in spite of his age, he continued to hold until his death.

In May, 1850, the Gardens occupied nearly five acres, and in the same year the Council instituted attractive concerts twice a week. In April, 1852, His Majesty the King paid a visit to the Gardens, with which he was much pleased. He presented them with his portrait, and gave the Society the name of 'The Royal Zoological Society.' In 1877 the last enlargement of the premises was completed. The Society, after many futile efforts, succeeded in obtaining from the Municipal Council a piece of land, on condition that the Society should erect on the site a large building, to be utilized as an aquarium, and that superior instruction in Zoology should be given to the University of the town, partly at the Society's expense. In all, the extent of the Gardens was increased to more than twenty-five acres, for which 463,369 francs were paid.

In 1888, the year in which the Society held its fiftieth anniversary, there were in the Gardens 378 animals of 141 different kinds, 2,009 birds of 462 different kinds, and 77 reptiles of 28 kinds.

The aquarium, opened in 1882, consists of a large and small hall, in which are three big reservoirs containing sea water and fresh, pumped in by machinery after having been well filtered. In the large hall will be found sea-water tanks, the two fresh-water tanks being in the small hall. There is a very rich collection of fish in them from all parts of the world,

and many others have been bred there. Besides contributing to the enjoyment of the public, this aquarium is greatly used for research work and the study of anatomy. Here Dr. Kerbert discovered the hitherto unknown fish parasite, *Chromatophagus parasiticus*. This aquarium is justly considered one of the most important institutions of its kind in Europe. For the study of ethnography a large museum has been built, in which is housed a fine collection of objects appertaining to that subject. Another spacious room was built during recent years for the rich collection of skeletons which the Society possessed, containing the celebrated collections of G. and E. Vrolik and the skeletons of animals which have died in the Gardens. The total number of skulls and skeletons reaches 1,500, and they are exhibited on long shelves.

After the aquarium had been opened, three rooms were reserved for the collection of Crustacea, Molluscs, Echinides, Zoophytes, and Polyparies, with the famous collection of sponges, which is unsurpassed in any other museum. The total number of objects kept in these three rooms is 5,976. In this part of the museum is to be found a valuable collection of marine animals, brought from the Arctic regions by M. Barents and M. Varna. During the last three years a collection of *local* animals has been commenced. In the second room of the museum you find not only a collection of stuffed animals and birds, with their eggs and nests, but also a collection of indigenous shells, fish, reptiles and the lower animals. The insects are lodged in three cabinets—one for the indigenous butterflies and moths, one for the exotic lepi-

doptera, and one for the coleoptera or beetles, arranged in 920 drawers.

The scientific library is very rich in works on natural history ; amongst other volumes is to be seen a complete edition of the works of Gould, the celebrated ornithologist. The library contains 5,131 books. There are in the museum upwards of 975 stuffed animals and 3,478 birds. The collection of shells is the most beautiful and most important which exists.

After the death of M. Westerman in 1890, the directorship of the Society was conferred upon Dr. C. Kerbert, who was formerly conservator of the aquarium.

The fee for admission to these large Gardens is one gulden. There are no less than fifty different houses or pens, besides the aquarium (one of the finest in Europe), and four museums.

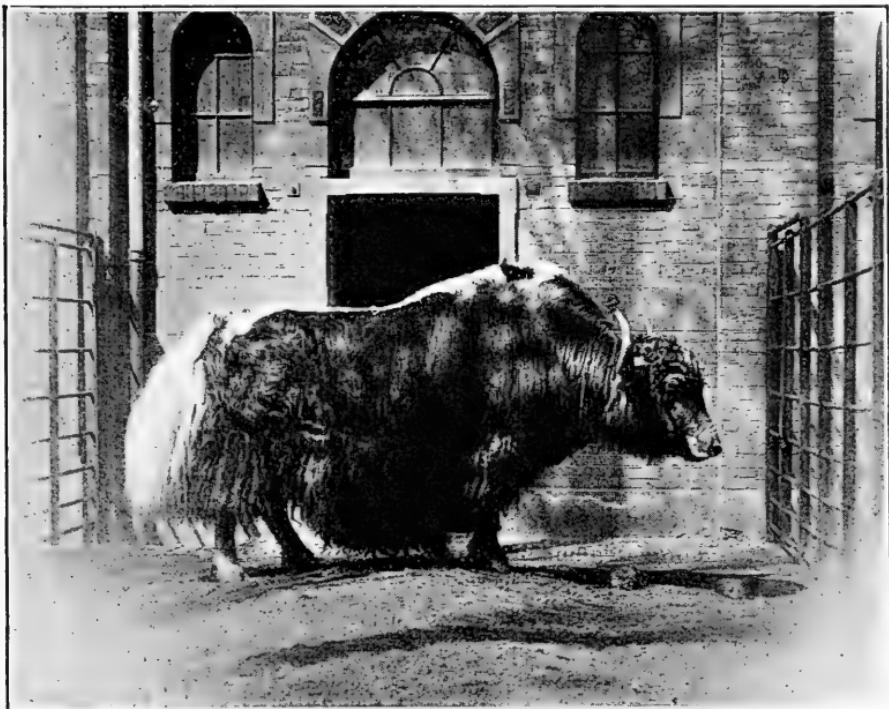
Turning to the left after paying at the turnstile, one sees the llama pens, containing specimens of the huanaco, the vicuna and the alpaca ; near them are two camels of different kinds. Close by is a pretty little deer shed, one of the inmates of which is a very fine example of Père David's deer from Manchuria. The insect house is next encountered, with a good collection of living caterpillars and chrysalides in glass-cases. Some specimens of the atlas moth and common swallow-tail butterfly had just emerged (May 2). Passing through a door, the visitor comes to a reptile house, well lighted and heated. Here are to be seen some very fine examples of pythons from Java, boa-constrictors and other large snakes, tortoises, lizards, alligators and a Temminck's snapper. In the centre

of this room are three specimens of the curious Surinam sloth (*Cholopus didactylus*), hanging from horizontal bars by large curved claws. Passing through a door, you find yourself in the parrot house, which is well filled with the brilliant-coloured noisy birds. Here, also, was the magnificent bird of paradise from New Guinea, and the curious wingless kiwi from New Zealand. A monkey house, well stocked, is next passed, and we then come to the large duck-pond, simply teeming with mute swans, wild swans, black swans, bernacle and Canadian geese, gannets, gadwalls, sheldrake, mallard, wigeon, teal, pintail and flamingoes. We next see a very fine pair of American bison, and two young ones born in the Gardens. The crane and wading-bird pens are close at hand, one large pen containing an extraordinary number of coots, rails and oyster-catchers, all looking the picture of health. There is a long, well-lighted lion house, built in 1859, containing twelve cages inhabited by a pair of lions from Somaliland, a pair of tigers from Delhi, some leopards and jaguars, and a pair of pumas, with their young born in the Gardens.

We now come to the elephant house, built in 1897, in which are housed four Indian elephants and a tapir. In the antelope house, which stands near, are a fine pair of elands in a large roomy paddock, waterbuck, a harnessed antelope and its baby, a brindled gnu, an oryx, and the rare inyala. Next, we find a very fine collection of birds of prey, including a beautiful specimen of the Bateleur eagle from Africa.

We now come to the ethnological or anthropological museum, built in 1888, containing native armour,

weapons, dress, etc., from all parts of the world, and many draped waxen figures (life-size) of Chinese and Japanese. Behind this museum are some black-and-white yaks from Thibet, and several zebras from India. Further on is the skeleton museum, and after that we come to a hippopotamus house, containing two specimens of this huge pachyderm. They are very well



YAK, AMSTERDAM.

housed, having, besides their large bathing-tanks inside, an outdoor playground and water-tank. Passing through a large conservatory, full of trees and plants, we come to an extremely picturesque seal grotto, and close by a deer shed.

The aquarium is reached next, for admission to which an extra charge of fifty cents is made. This

building, erected in 1882, is well worth a visit. Its tanks contain, amongst many others, specimens of coal-fish, sea-anemones, huge cod, conger-eel, crabs, lobsters, plaice, lump-sucker, skate, dog-fish, cat-fish, stickleback, king-crab (very curious), barnacles, newts, gold-fish, pike, barbel, roach, some magnificent trout, carp, perch, American trout and a salamander. In the aquarium is a large museum of preserved natural history objects, mostly fish, shells and reptiles.

After leaving the aquarium, we encounter large pheasantries and peacock houses, wild-sheep pens, ibis pens and a pigeon house, from which the birds have free exit. A third museum is found to be full of stuffed birds, eggs, and nests; some of the birds stuffed in their natural surroundings are very beautifully done. The zoological library adjoins. A fourth museum, built in 1894, contains a large collection of stuffed animals and a collection of shells. Here is a huge skeleton of an African elephant, with good tusks, and a stuffed giraffe; a whole unmounted hippopotamus skin, and a stuffed quagga, now extinct.

Close by this museum are some pens containing zebras and wild asses. The new bear house, built in 1897, contains a fine collection. A large house, built like a fortress, containing wolves, hyænas and jackals, is close at hand.

Dr. C. Kerbert very kindly sent me a volume of many hundred pages, containing the names of all the specimens in the gardens, aquarium, and museums; but in a work of this size it would be utterly impossible to give the names of even one-quarter of the treasures that are contained in these most remarkable Gardens.

CHAPTER VI

THE GARDENS OF THE ROYAL ZOOLOGICAL AND BOTANICAL SOCIETY, THE HAGUE (S'GRAVENAGE) : DIRECTOR, DR. DIETZ

THESE Gardens were opened in 1863.

In 1902 many alterations and repairs were done to the concert-house, the stage, and the aquarium. The museum and the library were enlarged. Important restorations were made in one of the old pheasant houses and in the crane house.

In 1902 the following creatures were in the Gardens: 126 animals of 36 species; 767 birds of 220 species. The income of 1900 was £4,751; of 1901, £4,184.

The Zoological Gardens at 'den Haag' are very different from those at Amsterdam. On paying half a gulden at the entrance, we first come upon a pen occupied by a pair of peacocks. Close by is a guinea-pig and Dutch rabbit house, and then we reach an extremely rude Indian elephant, which throws sand at us. This animal is found in a house built in the Eastern style, with minarets, and has an open-air paddock. There is rather a nice aviary, containing parrots (some of which speak English as well as

Dutch), jays and many other birds. Above the aviary is a museum.

Next we come to a funny little Himalayan bear, and a monkey house, with large open-air cages for summer use. After passing through some greenhouses full of plants and ferns, we find a nice collection of pheasants from Germany, China, New Guinea, the Himalayas, and Japan. These birds are housed in two long lines of pens, separated from each other by a greenhouse. In the centre of the Gardens, near a pond, is to be found a deer pen. On the back of one of the deer a jackdaw was perched, but unluckily he flew off before I could obtain a photograph of this somewhat unusual sight. Crows and jackdaws are often to be seen upon the backs of cows and sheep, but one would have imagined that a deer was too timid an animal to allow a large bird to perch upon it.

In the Gardens is a fine concert-hall; and here I may remark that in nearly all foreign Zoological Gardens there is such a music-hall, which on concert nights is packed to overflowing, adding largely to the revenue of the Gardens. It has always been a puzzle to me why our Council in London do not try to attract more people by the erection of such a hall and the engagement of the best artistes. An outdoor band appears to be the only attraction of the kind in our Gardens at home, such a thing as an evening concert being almost unheard of.

Close by the concert-hall is a reindeer shed, a llama paddock, a bear pit, and a very tame collie dog kept in a cage as a rarity. Close to a duck-pond containing

sheldrake, wigeon, pochard and swans, there is a pen containing a kangaroo and young, some more llamas, and some zebus.

Taken as a whole, these Gardens are neither pretty nor rich in animals, and are, in consequence, perhaps scarcely worth a visit.

CHAPTER VII

THE ZOOLOGICAL GARDENS, ROTTERDAM DIRECTOR,
DR. BÜTTIKOFER

THE idea of having a Zoological Garden in Rotterdam owes its origin to three amateur zoologists. One of these enthusiasts, a station-master on the Holland Railway, took a small plot of land on lease, and started a collection of animals and birds. Some years after a number of wealthy citizens subscribed 300,000 guilders, with which they bought thirty-four acres of land, half of which they laid out as a garden, where they built several houses for animals and birds. May 1, 1857, is to be considered the date of the foundation of these Gardens.

In 1863 the remaining ground was laid out and added to the Gardens. The director, Mr. P. H. Martin, originally a renowned lion-tamer, who had been in office since the foundation of the Gardens, resigned, and Mr. A. A. van Bemmelen succeeded him.

At frequent intervals additions were made to the number of buildings, including a large plant house 170 feet long, costing 45,000 guilders.

In 1874 a 5 per cent. loan of 500,000 guilders was contracted, and about twenty-five acres of land bought at a cost of 230,000 guilders. A splendid

casino was built on the newly acquired land, containing a restaurant, reading-rooms and a museum, at a cost of 325,000 guilders. In 1878 an officials' dwelling-house and a house for succulent plants were erected.

In 1882 the loan alluded to above was converted into a 4 per cent. one of 600,000 guilders. Large aviaries were erected in 1883 and 1885, and the 'Victoria' house for stove-plants in 1886. Other houses followed in 1889 and 1891. The year 1893 brought the conversion of the former loan into a $3\frac{1}{2}$ per cent. mortgage loan of 1,000,000 guilders, the issue of new shares to the amount of 700,000 guilders, and the paying-off of the old shares.

In 1895 a handsome new house for the carnivores was completed at a cost of 82,000 guilders. This house measures about 200 feet in length. In January, 1897, Mr. van Bemmelen died suddenly, after having been in office thirty-four years; and in May of the same year Dr. J. Büttikofer was appointed his successor. The fortieth anniversary of the founding of the Gardens was celebrated by a grand fête.

During the following years many more new buildings were erected, and the borders of some of the ponds were lined with an edging of concrete reaching for some feet down into the water, which proved successful in putting a stop to the devastations by rats.

The Gardens are planted chiefly with elms, but besides these trees there are numerous poplars, chestnuts, planes, limes, ashes, maples, oaks, willows, birches, alders, thorns, etc. Conifers are few in number, as the soil does not suit them, but holly and box grow well enough.

A good amount of bedding-out is done ; for summer planting alone more than 4,500 plants are used annually. The houses contain collections of orchids, palms, tree and other ferns (the tallest *Balantium antarcticum* in Europe is said to be there), agaves, azaleas, and various other stove and greenhouse plants. One house has been set apart chiefly for tropical economic plants.

The collection of animals numbers actually 394 mammals of 127 species, of which there are no less than 91 apes of 29 species, and 154 ungulates of 46 species.

There are 1,406 birds of 360 species, 94 reptiles of 24 species, and 39 amphibia of 3 species.

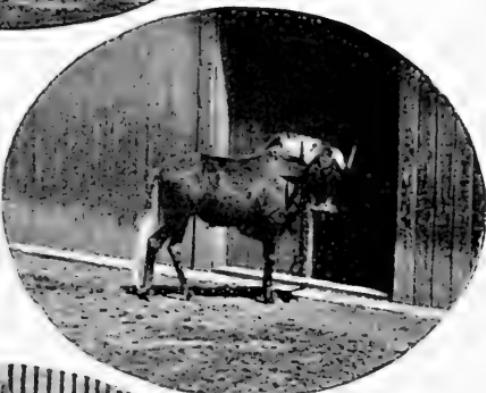
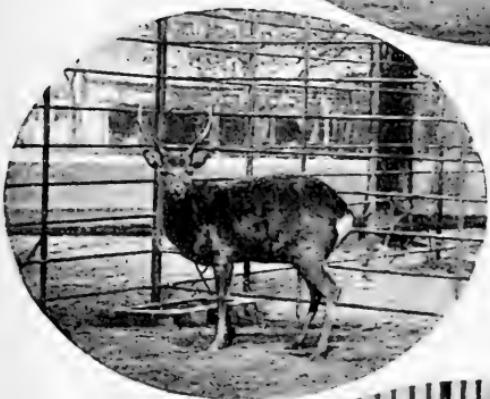
The management of the affairs of the Society is entrusted to a board of twenty-five shareholders, with president, vice-president, hon. secretary, and hon. treasurer included.

Out of these twenty-five members different committees are formed, who have the supervision respectively of : (1) The collection of animals ; (2) the garden and plants ; (3) the buildings ; (4) the clubhouse, concerts, etc. ; (5) the library and the museum. All these gentlemen render their services gratuitously.

Holders of original tickets have the right of free admission to the Gardens. Members who are residents of Rotterdam pay thirty guilders a year, with an entrance fee of ten guilders. They have free access with their families to the Gardens. There are in all 5,837 members at the present day. The admission for visitors is one-half guilder, children half-price.

During the summer season about thirty-five evening

HERD OF WATERBUCK.



JAPANESE DEER.

KANGAROOS.

BRINDLED GNU.

and thirteen morning concerts are given. On the Queen's birthday there is an additional display of fireworks.

In 1901 the expenses amounted to 169,300 guilders 90 cents, and the receipts were 170,847 guilders 94 cents, giving a surplus of 1,547 guilders 4 cents.

The concerts during the summer months take place every Tuesday and Friday at 8 p.m., and on Sundays at 2.30 or 8 p.m. The lions are fed at 2.30.

These are fine Gardens, and contain a magnificent concert-hall. The first house encountered contains, in separate pens, an oryx antelope, a gnu, nylgai, yaks, zebus, Indian buffaloes and American bison. Near a bear house, containing black, brown, European and grizzly bears, and striped hyænas, is a very fine bird-of-prey aviary.

One of the prettiest sights in the Gardens was a family of waterbuck—two female, one male, and a baby. The wild-sheep grotto, surmounted by a tower, was extremely picturesque, and up and down the rockwork jumped guanacos, alpacas, llamas, wild goats, Barbary sheep, moufflons, ibex and chamois. There was a pretty duck-pond and lake, crossed by two wooden bridges. The airy lion house, with seventeen dens, contained a jaguar, lions, leopards, cheetah, two black leopards and pumas. Close by was a camel house, a monkey house with outdoor summer cages, and a very good collection of pheasants.

Crowds of children proved a great nuisance whilst I was attempting to take photographs. There was a large open-air cage, in which herons, storks and gulls flew about at will. There was a pigeon house, with a

picturesque tower, two polar bears, a number of Indian muntjac, and a fine lot of red deer and wapiti. In all there are no less than fifty-four different animal enclosures, and the buildings also include a large restaurant, with great hall, reading-room, ladies'-room, dining-room, zoological museum (upstairs), ethnological museum, director's house, office, library, workshop and officials' houses.

CHAPTER VIII

ZOOLOGISK HAVE, COPENHAGEN

THE Zoological Garden in Copenhagen was founded in 1859 by Dr. Kjaerbling. It is a quaint Garden, situated by the side of a large park. On paying fifty ore to a pretty girl (the first pretty girl I had seen in Denmark) at the entrance, I found myself opposite a large duck-pond with little islands in it, upon which were placed boxes for the birds to build their nests in. Close by the side of the pond was a model in plaster of the huge *Dinosaurus iguanodon*, a kangaroo-like reptile long ago extinct, a skeleton of which is to be seen in the Brussels Museum.

Near a large restaurant was placed an ingeniously constructed seal tank, like an aquarium, with a thick plate-glass front to enable one to see the creature swimming about below the surface of the water. It was amusing to watch it sitting bolt upright, with its tail resting on the bottom of the tank, and its nose and eyes just above the surface of the water.

Next came a pair of water-buffalo and their baby, and an American bison. In the centre of the Garden was a pheasant pen, and a very large aviary with trees growing in it, upon the top of which herons built their nests. There were many duck and fowl aviaries, some

of the latter having curious little houses with ponds in front of them. There was a small cats' house, which smelt abominably. This, however, is unavoidable, containing as it does foxes, civets, polecats, wild cats, servals, porcupines, wolves, jackals and two sorts of hyænas. There was a lion house with outside cages, containing a pair of lions, a pair of tigers, leopards, jaguars and a puma (the latter always growling). Another house contained a very miscellaneous collection—some goats, a pair of Shetland ponies, a magnificent cassowary (very tame), a tapir, some Brahma cattle, some wild boars, a lot of guinea-pigs, a crane, two dorcas gazelle, two muntjacs, an enormous zebra, and a tiny donkey.

All the trees and shrubs in this Garden were extraordinarily backward ; scarcely a leaf was out, and as it poured with rain during the whole of my visit of five hours, the outlook could scarcely be called pleasing to the eye.

There was a small house of flamingoes and storks, and in an elephant house were a small Indian elephant and a troupe of performing dogs and monkeys. Here Herr Litz, the celebrated trainer, was performing with a various assortment of animals. In the deer sheds were a pair of cariboo, with a baby a few weeks old, some axis and some wapiti deer.

There were several bird-of-prey aviaries, and in them some beautiful Iceland falcons. A second elephant house contained an enormous Indian elephant. A fine new series of bear pits in red brick was in course of construction. But the best house in the Garden was a really good and new monkey house,

very lofty and roomy, with huge plate-glass fronts. In one of the compartments was a young Himalayan bear, together with several monkeys. The outside cages of this house contained trees, ropes, swings, a windmill and a rocking-horse for the amusement of the apes. Altogether I consider this one of the finest and best-appointed monkey houses in Europe.

On the top of what looked like a factory chimney a pair of storks had built their nest in the open air. A house for tropical small birds contained an enormous number of paroquets, and close by was a quaint cone-shaped owl house, with outside and inside cages. There were wild-sheep rockeries, wolves' dens, and another pond, besides many smaller houses.

This Garden is well worth a visit.

CHAPTER IX

THE GARDENS OF THE ROYAL SOCIETY OF ZOOLOGY, ANTWERP: DIRECTOR, M. F. L'HOEST

THE Society of Zoology at Antwerp was founded July 21, 1843. The Gardens then consisted of but three and a half acres of land lying outside the old fortifications of the city, for which a capital of 100,000 francs was subscribed. In 1843 Pierre Joseph de Caters was President and M. Jacques Kets was Director. M. François L'Hoest was appointed Director in 1888. The personnel of the Gardens comprises eighty-eight employés. The animals' food costs 112,000 francs yearly.

During the year 1900 the total receipts (including 152,951 francs taken at the gates) amounted to 31,299,470 francs. In 1900, 32,763,336 francs' worth of animals were bought and 33,792,396 francs' worth of animals sold. Public sales are held annually. Fertile poultry eggs are sold at one franc each, guaranteed pure bred; if proved not fertile, they are replaced by others.

The Gardens, which are close to the railway-station, are open from April to September from 6 a.m. to sunset, and from October to March from 7 a.m. to sunset. There are numerous grand concerts. The

price of admission to the Gardens is one franc for adults and fifty centimes for children under twelve years. The lions are fed at 5 p.m. in summer, 4 p.m. in winter, and the otters at 11 a.m. and 4 p.m.

A grand entrance to the Gardens, to replace the present provisional one, is under consideration. On entering, one sees on the left the Grand Palais des Fêtes, opened in 1897 in the presence of His Majesty King Leopold II. The Palais, which cost 1,300,000 francs, contains a terrace and balcony, a restaurant, a café and billiard-rooms, a vast promenade, a marble saloon, a great concert-hall to seat 3,000, a vestibule and grand staircase, and a winter garden ; and in three large rooms is a natural history museum. Opposite the Palais des Fêtes is a wide open space covered with seats grouped round a central band-stand.

The collection of animals and birds in these Zoological Gardens is one of the finest in Europe, and the Gardens are especially famous for their hippopotami, which have frequently bred there. The first house we come to is the monkey house, with cleverly constructed doors to keep the draught out. Here is a specimen of the orang-outang from Borneo, a chacma, and a chimpanzee.

We next come to the dairy, constructed in the 'Renaissance flamandi' style. The stalls contain twelve cows, which, before being brought in, are submitted to the 'tuberculin' test ; if they pass it, their milk is certified free from all infectious germs. The price of milk is twenty cents the glass, 'guaranteed pure and not skimmed.'

We now come to prettily thatched kangaroo sheds,

and in front of them is a duck-pond well stocked with ducks and swans. Next we find an ostrich and cassowary house, built in the Eastern style. Here I quite mistook the grunt of the ostrich for the dull roar or grunt of the lion, as I had often done before in the African jungle. Close at hand is a fine lofty bird-of-prey aviary. Outside nearly all the cages were



KANGAROO.

(Photo by Ottomar Anschütz, Berlin.)

coloured pictures of the birds, with a map of the world below them showing the distribution of each. Passing a small seal grotto and thatched house for llamas, we come to the Palais Egyptien, or elephant and giraffe house. The paintings on the outside walls represent the natives of foreign parts coming to offer to the city

of Antwerp examples of the most characteristic animals of their country.

This house contained four giraffes : one born in 1871, one in 1873, one in 1875, and one in 1876 (in 1897 the Society refused an offer of 25,000 francs for one) ; some camels, common and Burchell's zebras, Indian and Sumatran rhinoceroses, and two Indian elephants. There is a stuffed giraffe, which died in 1898, after having been in the menagerie eighteen years, and the skeleton of an Indian elephant, which lived in the Gardens from 1852 to 1880.

The bear dens are next to be seen, near a duck-pond, upon which were swimming hundreds of ducks. There are four polar bears housed near here. Passing the wapiti and moose yards, we come to a large aviary, outside which is a monument to Darwin. More than 100,000 pairs of birds are annually bought and sold in these Gardens.

Next in order is a large children's playground, replete with swings for their amusement. There is a very picturesque rockery for wild sheep and aurochs, and American bison enclosures backed with rockwork.

A most imposing lion house is now encountered, after passing through a fine sculptured entrance. It will be found very roomy inside, and it contains a large number of dens, besides three large circular open-air cages. In one of the latter were housed no less than seven lion-cubs, all about six months old. Opposite the outside cages were a couple of brindled gnus, a pair of leucoryx antelopes, and an *Oryx beisa*, grazing in paddocks. In a house close by were lodged a pair of full-grown hippopotami and a baby born in the Gardens.

The parents have bred no less than twelve youngsters between 1886 and 1900, the period of gestation being 238 days. Several young ones have been sold to other Gardens for very large prices. Pony and donkey carriages run about the Gardens carrying children. A very good band played all the afternoon when I was there, and the Gardens were full of fashionably-dressed people. Some of the statues in the Gardens are very fine, notably a group representing an Indian horseman attacked by jaguars. One of the things which will probably strike the visitor most is the enormous number of ducks, the ponds literally swarming with them.

CHAPTER X

JARDIN ZOOLOGIQUE, GHENT, FOUNDED 1851 :
DIRECTOR, M. NIEPELS

IT was simply pouring with rain when I left Brussels to visit the Zoological Garden at Ghent ; but, as luck would have it, I had scarcely paid my franc and passed the turnstile into the Garden when the rain ceased and the sun popped in and out of clouds.

Passing a duck-pond covered with pochard, the visitor comes to a *café* and the usual concert-hall found in all zoological gardens on the Continent. In front of the hall is a large open space with a band-stand in the middle. Just beyond is the parrot and small-bird house, in which one of the parrots was imitating a cuckoo to perfection. In the centre of this house was a large case containing stuffed animals and birds, which had lived at some time or other in the Garden. Close by was a large pheasant and peacock aviary, with indoor pens fitted with plate-glass sides.

After passing a quantity of poultry pens, the next objects which attract the visitor's attention are the well-filled brown-bear cages. Behind them, in a house rather difficult to find, is a remarkably fine Indian elephant. We next come to a pretty pond with a

variety of ducks, mostly sheldrake, swimming upon it. There is a good bird-of-prey aviary, containing, amongst other birds, a remarkably fine condor.

The next house contained zebus, wapiti, Japanese deer, and black-and-white African sheep with fat tails. The extraordinary abundance of fat on the tails is a



BARBARY SHEEP, GHENT.

provision of nature, and enables the animal to go without food for a considerable period when making long marches from one patch of long grass to another, which is of frequent occurrence in the arid deserts where they live. I frequently gave as little as three arms'-length of common American sheeting for one fat-tailed sheep in Somaliland, North-East Africa,

one of the principal homes of these black-and-white sheep.

In the centre of the Garden is another pond, upon which were ducks, swans, pelicans, storks, and cormorants. There was a pen of Angora sheep, the old ram having most beautifully twisted horns. In a rockery was one of the prettiest sights in the Garden —a herd of Barbary sheep, a favourite animal in Continental zoos; behind them were a herd of yak, and one of white llamas.

Anyone who happens to find himself in Ghent with an hour to spare should visit the Garden. It is close to the railway-station.

CHAPTER XI

JARDIN ZOOLOGIQUE, LIÈGE : DIRECTOR, M. HENRARD

THIS Garden belongs to the Royal Society of Acclimata-
tion and Horticulture of Liège.

On entering (I saw nobody to pay), I found a number of poultry pens, the inmates being for sale. A large number of ducks and geese are also bred and sold, and two cages contained fox-terrier dogs for sale. There was a bear pit, which appeared to be empty, and a monkey-cage only half full ; but look as I would all over the Garden, I could find no other animals.

The Garden is very long and very narrow, and has several large duck-ponds, many down the middle containing a few ducks and geese. There is a children's playground with swings of various kinds, but this Garden can scarcely be called a zoological garden. There is a school of horticulture, a restaurant, and a band-stand.

CHAPTER XII

ZOOLOGISCHER GARTEN, AIX-LA-CHAPELLE (AACHEN) :
DIRECTOR, AUG. BAST

THIS Garden was founded in 1886 by Sir Emil Lochner, and his widow is now proprietress.

On paying twenty pfennig one is confronted by a large, handsome concert-hall with glass roof and sides, with pretty beds of tulips in front of it. At first I could find no animals, although I found several empty cages and pens. At length, however, I came upon a deer house with outside enclosure, containing, amongst others, a pair of wapiti about half grown. Close by it was a bear den built like a castle, and containing a brown and a polar bear ; in two other pens close at hand were a pair of white goats and a pretty roe deer. What, apparently, had been an antelope shed now housed two monkeys and some parrots. There was rather a nice lion house, but there was not a single animal in it. There was a llama pen inhabited by one llama, and a pheasant house and a duck lake finished a very disappointing show, considering the accommodation and possibilities of the place.

To add to the enjoyment of my visit to the Garden, I was caught in a snowstorm there, May 7.

CHAPTER XIII

ZOOLOGISCHER GARTEN, COLOGNE: PRESENT DIRECTOR,
DR. WÜNDERLICH

IN 1857 Dr. Garthe conceived the idea of forming a Zoological Garden, and gave expression to this idea in the Cologne newspaper of August 13 in that year. People of every class appreciated his idea, and took shares in a company which was formed three years afterwards. This was the last work of this great savant. A bust of him by Werres is now placed at the end of the main walk in the Garden.

The first Director of the Garden, Dr. H. Bodinus aus Greifswald, was appointed on April 24, 1859.

On September 17, 1859, plans of the Garden were submitted by Director Strauss, and the work progressed so rapidly that the Garden was opened to the public on July 22, 1860. Different houses and ponds were added from time to time, until, in 1882, the Garden reached its present extent.

The institution quickly won friends and sympathizers in all parts of the world. In 1869 Dr. Bodinus, the Director, left in order to undertake the direction of the Berlin Zoological Garden, and he was succeeded by Nicholas Funk, who had been Director of the Brussels Zoological Garden. During his sixteen years' term of

office he did much for the pictorial beauty of the Garden.

Heck in 1886 thoroughly replenished the stock of animals before leaving for Berlin. In 1888 he was replaced by Dr. Wunderlich, who is the Director of the Garden to-day.

Of late years the approaches to the Garden and the Garden itself have improved enormously. The old-fashioned and ugly buildings were all removed by a big fire, and a splendid new aviary and a new ostrich house have taken their places. The ostrich house is built in the shape of a mosque with numerous minarets. The birds are now to be seen all the year round, which was not possible in the old house. There is plenty of light and ventilation through a glass roof, whilst two stoves supply heat. Within this house, besides ostriches, are to be found rheas, emus, pouch-bearing animals, rodents and parrots, and the rarest bird in it is the Australian wingless kiwi. This tiresome bird goes to sleep all day, and is never to be seen when wanted ; but when the gates are shut and the visitors have all departed, out comes the kiwi.

The old ostrich pens have disappeared, and in their place is a children's playground, which is quite deserted and useless, as all the children naturally go to see their cousins in the monkey house.

The kangaroos' quarters have changed for the worse, as the animals formerly lived in big outside pens ; now, owing to the children's playground, they are confined in much narrower limits, and have only small outside

pens, without enough room to move about. An armadillo is also to be seen in this house.

On leaving the ostrich house, the camels' and llamas' enclosure is next encountered. The houses are prettily painted in bright colours. The collection of llamas is very complete. We pass on to the old aviary containing the pheasants; a large new pheasantry, on the same plan as that of the one in the Zoological Gardens at Hanover, is now under consideration. Here are also to be found specimens of Amherst's pheasant and the vulturine guinea-fowl from North-East Africa.

Leaving the restaurant on your left, you pass through a young chestnut avenue and come to the antelope and deer houses, standing in a long row. The small deer and the hardier kinds of antelope are found here. Waterbuck, nylgai, and two white-tailed gnus are to be seen. Père David's deer is one of the occupants of the deer sheds. Other deer found are the Virginian deer, axis deer, sika from Japan, and a very grotesque-looking deer from China—Reeves' muntjac (*Cervulus Reevesi*). On the other side of these sheds is the large-deer enclosure, with pretty houses attached. Here are found wapiti from America, and the Altai, one with a curious malformation of horn. At the end of the deer enclosure is the old bear pit, with two fine big pens. This was a present from the late architect, Koch. There is also a cage and tank containing two polar bears; a grizzly bear in the next cage, with rockery and flowing water; a pair of South American rare spectacled bears (*U. ornatus*), Malay bear, Thibet bear, Japan bear, an Indian and a Western

Asian. Opposite to the bear pit is the flamingo pond, in one of the prettiest situations in the Garden. Green banks, groups of trees, storks, cranes and flamingoes make a lovely picture. From the terrace of the restaurant a very picturesque view of the Garden is to be had. On the left hand of the pond are a sheep and goat rockery, and a building containing Barbary sheep, thar, onahura, and a herd of moufflon—that extremely beautiful black, brown, and white wild goat. The latter have frequently bred in the Garden. In Corsica and Sardinia, for want of game laws, they are fast dying out. There is a new fox and jackal house, brick-built in the Gothic style, and having on one side a massive tower. The cages are roomy, the floors cemented, and the sanitary arrangements good. Besides the German wolf are to be found the grey wolf and the black wolf of North America, also several jackals, foxes, and fennecs, including the Arctic and common foxes, and *C. Hagenbecki* from Somaliland. Two striped hyenas and one spotted hyena are housed in front of the bear pits.

The monkey house is also found in front of the bear pit. This is the most attractive and popular house in the Garden. A young orang-outang, however, has monopolized most attention in the new aviary. The baboons, macaques, etc., will soon be placed in a new house, which will have more light from above, and there will be out-of-door cages. The capuchin seems to live out of doors all the year round. In the monkey house are different sorts of lemurs, white rats and mice, and the hamsters, which live in glass cases. One of the baboons has been for years in the Garden;

he has learnt to dance, and will turn round as often as he is told.

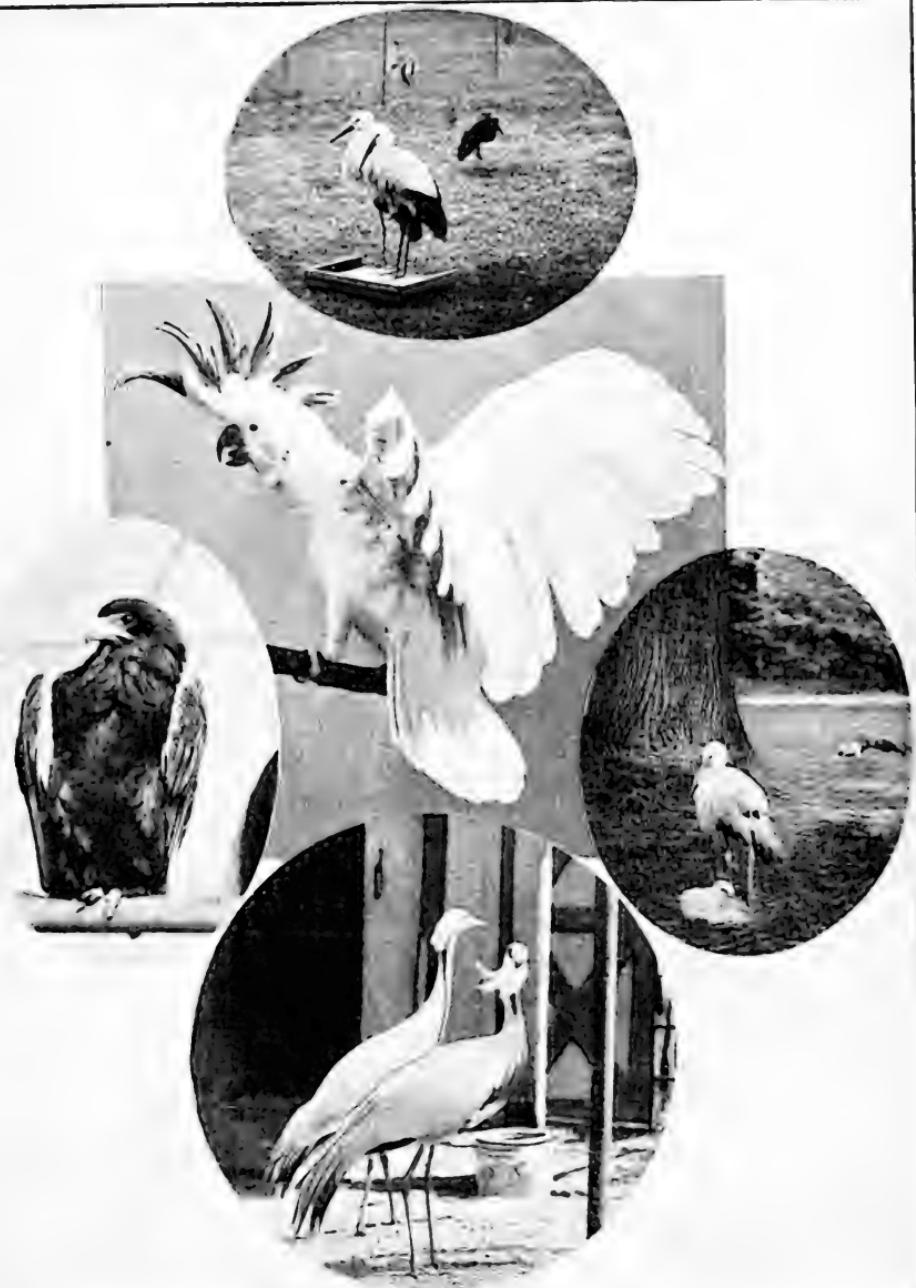
We leave the monkey house, built in pleasing Indian style, and come to the rodents' grottoes and squirrel house. Here are porcupines and hystrices. The small rodents of the squirrel family live with the marmots or mountain-rats, and are to be seen close to the grottoes. This place is built of stone and iron to resist the sharp teeth of these gnawing animals.

The carpincho (*Hydrochærus capybara*) is in an enclosure close by behind the monkey house. This animal is the largest of the rodents, being 4 feet long and weighing 98 pounds. Here also is a very fine collection of geese.

Passing the pretty little house of the Director, we come to the splendid and imposing new aviary ; here are all kinds of foreign birds, such as paroquets, etc. The four corners are marked by towers. There are outside cages, and the house is well built and free from draughts. On the south-west side of the house is a large open cage with a spring of water in it, containing wading birds, the ibises, and shore birds, such as oyster-catchers and plovers. Ladders lead up to the roosting-boxes. Each outside cage is provided with a good bath. All the birds are well labelled on the cages, and there are pictures of several of them.

Above the great aviary is a large glass roof with ventilators. The Cologne aviary surpasses that of Berlin. The cages get their light from the front as well as from above ; by this means you see the proper colours of the birds, and not merely their silhouettes. There are plenty of trees and plants for the enjoyment

STORKS.



BATELEUR EAGLE.

COCKATOO.
(Photo by Ottomar Anschütz, Berlin.)

CRANES.

STORK NESTING ON THE GROUND.

of the birds as well as for the pleasure of the visitors. These plants help to improve the air.

Passing the great fish-pond, which in summer is ornamented with swans and in winter is very popular for skating, we come to the piggery, a pretty building in blue-gray basalt covered with natural red tiles. Each pig has a roomy eating and drinking trough, and is kept clean and free from smell. The floors are on a slant, and the drainage is excellent. Here are wart-hogs, some European wild boars (huge animals), small peccaries, and the brilliantly - coloured red river-hog. Next door are the birds of prey. Their building contains fifteen large flying cages, the one in the middle being the largest. At both ends of the rows of cages are twenty smaller cages. The great flying cages contain trees and a brook of flowing water. There are huts for nests built into the walls. The small cages are built of stone with bars in the front ; shrubs are put into each.

There are two sorts of vultures, thirty species of hawks, and ten of owls.

A bridge of stone close to the eagle rocks connects the old part of the Garden with that of the new. The street below has not been destroyed, doubtless owing to its historic character. From the bridge there is a beautiful view over the Mühlheim heath of the town beyond. Five-sixths of the space of the new part of the Garden is taken up by a large lawn covered with shrubs. At the end of this we come to the sealion grotto ; the Garden guide calls it the *chef-d'œuvre* of the Garden. From a large rockwork overgrown with moss and plants the water flows into a basin

15 yards long and 8 yards wide. At the back of the rock are huts for the seals.

Retracing our steps, we come to the buffalo houses, three pretty, massive wood-block houses. In one are to be found no less than five American bisons ; in the others are the Indian bison, the yak, the Cape buffalo, the gaur, the banting from Java, and the gayal.

Going back over the bridge, we see to the right, rather hidden by bushes, a road leading to the antelope and elephant house, fitted with large outside pens with water-tanks. Here is to be seen a hippopotamus. Opposite the tank is a beaver enclosure ; not far from the beaver house is the otter tank, with perpetually flowing water. The so-called elephant house is a plaster building in the Moorish style, with little towers and minarets. Going through folding-doors, we step into a wide hall. Near the door are the equidæ. The idea of uniting the antelopes and elephants is for the sake of economy. The pens are separated from each other by rolling doors. The animals are fed from the front. There are one African and two Indian elephants. The Indian female elephant has been in the Garden since 1872 and is now thirty-two years old ; the African elephant, a young male, is eight years old—Mangasia he is called, after the famous Abyssinian Ras. The old hippo, which was born in Antwerp, is now dead, and has been replaced by a baby one. This little fellow tumbles about in his tank in a most amusing manner.

Tapirs, Indian and American, are found in this house. Amongst the ruminants are the anoa, an addax, a magnificent sable, *Oryx beisa*, and three *Oryx*

leucoryx (both the latter have bred here), the gnu, some Arabian gazelles, and a dwarf antelope with a young one, the latter in a special glass cage with bars on the top. This cage stands on a table. In the cages are sleeping compartments. In the centre of the room was a glass case containing four baby kangaroos, and a pretty sight it was to see them playing with each other. There are a pair of Somaliland wild asses, which have bred here, and also Burchell's and Chapman's zebras.

The small-cats' house is not a beautiful edifice ; the cages are very narrow and badly lighted. Here are to be seen the serval, the caracul, leopard, zorilla, ichneumon, etc. ; the local animals have the worst cages in the Garden.

Close to the small-cats' house is the large-cats' house, an unpretentious building, which has ten extensive semicircular cages. The outside cages are roofed over and have cement floors ; inside, the cages are floored with wood. The four biggest cages have grottoes at the back, also wooden floors. The grottoes, however, are difficult to clean. The floors, which slope to the front for drainage, can be taken out. Bars can be put in to divide one cage into two if necessary. Tree-trunks are put inside. When the Rhine overflowed in 1882 and 1884, the cats saved themselves from being drowned by climbing up these tree-trunks. Two marks on the eagle aviary show the height of the water on those occasions. Many ducks and swans swam away and were killed by so-called sportsmen. The Garden was turned into a Rhenish Venice, and the feeding was carried on in boats. In the house are

three lions, and three young born in the Garden, leopards, cheetahs, puma, and black leopard, a pair of hunting leopards, a jaguar, a pair of Bengal tigers, and a pair of Siberian tigers (the female born in Berlin). These animals live day and night in the open air. The lions in winter are often seen lying in the snow, perfectly contented.

Leaving the square with shady trees we come to the great aviary. The flying cages are small in comparison with those of the Berlin aviary ; the ironwork is so complicated up above that the birds cannot fly about at the top for fear of damaging themselves. They have only a poor bath and a few mangy-looking trees. The birds mostly perch on iron bars and parts of the wall at the back. They are too crowded : doves, seagulls, pheasants, herons, and starlings jostle each other. It is not quiet enough for them to breed well. It was an amusing sight to see the gulls fed ; they made such a noise, and fought so hard for the tit-bits of meat, bread, and green food thrown to them. Close by the great aviary are the stilts and a primitive wooden winter house containing peacocks, etc. At the back of the peacock house are the storks, one of the finest collections in Germany. There are thirteen different species. In summer they inhabit the green banks of the flamingo pond.

Close to the place where the children do not play there are a quantity of old houses for poultry, pigeons, etc. There are five ponds : one a large skating-pond, in summer frequented by swans ; a second the flamingo pond mentioned above. Three other ponds are the Island and Temple ponds, called after a little clock-

temple close by, and the pond which unites them. These stretch across the Garden from the Director's house to the lion house. They simply swarm with ducks of every description, pelicans, eight species of swans, and twenty-six species of geese. The pelicans



PELICANS, COLOGNE.

are a very fine collection, and contain eight species in all.

Near the lion house is a machine house producing electricity for the restaurant and pumping water for ponds. Before the machine house is a pretty grotto with a waterfall which leads by a brook into the ponds.

CHAPTER XIV

ZOOLOGISCHER GARTEN, ELBERFELD : DIRECTORS, MESSRS. HERRMAN AND RIEMAN

THE Zoological Garden in Elberfeld was founded in 1879 by a number of citizens in the form of a company. The opening of the Garden took place on September 17, 1881. The Garden, which has an area of about 137,641 square yards, lies in the west of Elberfeld, at the end of the town parks adjoining some plantations. The Garden owes much of its attraction to the beauty of the valleys and hills amongst which it is situated, and has on this account been much frequented by artists. It has been considered the most beautiful Garden in the whole of Germany. The number of animals, however, is small. The main object of the Garden is to afford the public a pleasant spot in which to amuse themselves, and for this purpose there are frequent concerts and fairs.

The restaurant can hold 25,000 people.

After a long drive uphill and right out of the town in a most rickety old cab, which I expected would come to bits every minute, I arrived at the Garden, laid out upon the side of a hill, with a large and thick wood in the background. Close by the entrance-gate

was an enormous concert-hall and café, with a little open-air theatre behind. Going uphill on the left, past some very nice asphalt tennis-courts and a duck-pond, you reach a large brown bear and wolves' den. On a steep bank was a herd of red deer, with some fallow deer, whilst higher up was a pair of Barbary sheep, with a young one.

There were many pretty walks leading through beech and birch trees down to a large boating lake. Although not rich in animals, the Garden is picturesquely situated.

You can come back part of the way on the very cleverly constructed Barmen - Elberfeld mono - rail, which runs all along and above the river. Really, the Germans are up-to-date and far and away above us in electrical transit.

CHAPTER XV

ZOOLOGISCHER GARTEN, DÜSSELDORF: DIRECTOR, INSPECTOR GOFFART

THE Zoological Garden at Düsseldorf is owned by a company with a capital of 35,000 shares. The opening of the Garden took place on May 31, 1896. The portion laid aside for animals (not including plantations, greenhouses, pasture-land, etc.) is about twenty-seven and a half acres. Taking into consideration that Düsseldorf is not a town which is much resorted to by visitors, and that it is so close to Cologne, where it has a powerful rival, the stock of animals in the Garden is not a bad one. There is a good collection of monkeys, bears, and carnivorous animals generally. There are a fair number of rodents, a large number of deer, six bison, and a large herd of Barbary sheep. There is also a number of horses and asses for children to ride and drive.

The birds are numerous, especially the birds of prey, singing-birds, parrots, poultry, pigeons, ostriches, and cassowaries. There are some fine ponds for the ducks, and a gigantic aviary 6,000 cubic yards in extent. An artistic-looking ruin, like the Castle of Heidelberg, cost £2,700.

The yearly cost of food, which is about £1,600, gives

an idea of the large number of animals and birds in the Garden.

After passing the entrance-gate (entrance fee fifty pfennig), the first pen on the left contains pheasants. We next come to a pretty garden of flower-beds, with a fountain in the middle, and close to a long line of domestic-fowl pens and a rose-garden is the concert-hall; close by is a bird-of-prey aviary, and in front of it a large *Kinderspielplatz*, or children's playground, replete with swings of all sorts. Crossing a bridge over a duck-pond, we come to a most amusing little house of guinea-pigs. The house is in two stories, and you can see the guinea-pigs looking out of the windows upstairs. It looks just like a large dolls' house. We then come to what appears to be an ancient castle in ruins, and among these ruins capers a huge flock of Barbary sheep. I should say that this is the largest herd ever brought together in captivity. I counted over sixty, including a large number of kids. Next in order is a lion house, with outside summer cages, containing lions, tigers, leopards, and pumas, as well as a handsome civet from West Africa, and a striped hyæna.

Backed by an elaborate rockwork is a sculptured lioness with cubs, very life-like. Opposite the lion house is a large lake crowded with ducks and swans. Next come foxes and wolves and two polar bears. In the American bison enclosure young ones were born in 1890, 1892, 1894, 1896, 1898, and 1899. In the next pen is a Shetland pony, and then comes a pen of yak. Deer pens follow, with a small brook running through

each. Then comes one of the largest flying aviaries I have seen in any Zoological Garden. It is some 50 feet high, and has quite large trees growing in it, upon which herons build their nests. The cage was presented by Herr Oskar Aders in 1897, and it contains gulls, ducks, ruffs, oyster-catchers, and other waders.



A BARBARY RAM, DÜSSELDORF.

A curious Egyptian building, with outside paddocks, contains camels (two kinds), pigmy cattle, and an Indian elephant. This house is followed by others containing roe deer, axis deer, rabbits, kangaroos, and monkeys. I must not omit to mention a baby Bactrian camel born in the Garden.

This is quite one of the most picturesque of the many beautiful Gardens on the Continent.

I next journeyed to Krefeld by a most circuitous route, and found that the *Thiergarten* (wild-beast garden) contained not a single beast, but only a man, who asked me about a dozen questions in German, none of which I could answer.

CHAPTER XVI

THE WESTPHALIAN ZOOLOGICAL GARDEN, MÜNSTER : DIRECTOR, DR. LANDOIS

THE so-called 'island' upon which this Garden now stands was originally laid out by the Abbot Bernard von Galen. A fortress which stood on the island was destroyed and replaced by a public park, a coffee-house, and a summer theatre.

On December 10, 1873, Professor Landois and Sanitary Inspector Nübel took a lease of the island and everything standing upon it until February 14, 1874, when they bought it right out and set to work to form a Zoological Garden upon it.

In order to improve the appearance of the place, they induced Herr Carl Koller to sell them a neighbouring meadow for 2,000 thalers. With extraordinary activity they worked until June 26, 1875, when the Garden was formally opened to the public. In 1881 the pillar-hall—a large entrance-hall—was built; this, however, was subsequently destroyed by fire. In 1894 it was replaced by a new building in the modern style, approached by a bridge over the river.

The entrance-hall bears over its gate the inscription : 'Omne tulit punctum qui miscuit utile dulci'

(Everyone hits the right nail on the head who combines the useful with the beautiful).

The restaurant was completed for the opening of the Garden in 1875. The great hall, with its ante-rooms, was originally destined for a scientific and artistic museum; but the people, as of old, hungered more for pleasure than for science, so that the whole of the scientific collection had to be removed to the lumber-room above, and a theatre and stage took its place.

According to the opinion of Carl Hagenbeck, the monkey house at Münster is the best erection of its kind in the world. The monkeys can be outside or inside as they please all the year round. In consequence of this the house has been copied by many other Gardens. The wolves' grotto was built in 1883. The bear pit carries the following peculiar inscription :

‘*Cette belle et gracieuse villa
L'on doit et l'ours au gorilla—1881.*’

This is explained when we are told that in 1881 Professor Landois travelled round the towns of Westphalia with the skeleton of a gorilla, and held popular scientific lectures upon it; the money obtained he presented for the building of the bear pit. Many have been born here. There is a female polar bear with a male brown bear, and hopes are expressed that some day there may be a piebald bear-cub.

The aquarium is a present from the Evening Society, and was built out of the profits of the play called ‘King Belle’ in 1886.

The owl tower was built from the profits of another play.

A pretty walk through an avenue of trees brings us to the Zoological Garden (entrance fee fifty pfennig). The first cage is found to contain small rodents, and this is followed by a bird-of-prey aviary. We next come to the *Kindersport Spielplatz* (children's playground). A man in uniform came and unlocked the swings, when there was a perfect rush of children to circular swings, horizontal swings, vaulting-horses, and horizontal bars galore. How well they cater for children's amusement in Germany! In a Chinese pagoda, painted red, were a pair of Bactrian camels and their baby, and close by a duck-pond was a large aviary containing pigeons, pheasants, turkeys, fowls, and gulls in separate pens. In the next enclosure were some moufflon, two rams having enormous horns. Opposite a large museum of natural history specimens is an owl house, with a picturesque tower above it. The next house is strikingly built in the Moorish style, with dome and minarets, and contains, besides a tapir and two striped hyenas, an amusing couple in the shape of an elephant and a black pony, which caress and play with one another. It was a very pretty sight to see the two together, evidently very fond of each other. On the keeper appearing and giving him the order, the elephant knelt down and saluted with his trunk.

A lion house had the walls of the outside cages hand-painted to represent Eastern scenery; this had a pretty effect in conjunction with the living animals within. The house contained a pair of lions from Somaliland (the male in magnificent coat), a pair of tigers, an ocelot, and some parrots.

The Garden contained several medallions in bronze, with portraits of benefactors struck upon them. These medallions were framed in brick towers covered with ivy, and each was surmounted by one large bird. In a corner of the Garden is a museum of antiquities connected with the Anabaptist rising in 1534-35, when John of Leyden called himself King of Münster. Here also, hanging upon a wall, are iron cages with effigies within them of John of Leyden and his two friends, who were executed within them; below are a set of iron torture instruments. Opposite a large concert-hall is a den containing two polar bears and two brown bears, the latter in very good coat. There is a quaint dark aquarium, the walls covered with imitation rock and stalactites, containing a variety of fishes. Altogether this Garden is well worth a visit, as there are some very striking and uncommon objects to be seen in it.

CHAPTER XVII

ZOOLOGISCHER GARTEN, HANOVER: DIRECTOR,
DR. SCHÄFF

THE origin and the flourishing continuance of Zoological Gardens in other great towns inspired the wish for a similar institution in Hanover, and ever since 1850 people were endeavouring to bring the idea to realization. Especially active in this respect was Dr. Schlager, with whom Herr George Schultz heartily collaborated:

In 1866 a company was formed for the laying out of a Zoological Garden, at the first meeting of which Baron von Munchausen, Herr Rasch, Dr. Schlager, Professor Gerlach, and Mr. 'Wine-merchant' Schultz were chosen directors.

On a plot of ground given to them by the Town Council in the town forest sprang up the first buildings, made after the plans of Architect Lüer, which consisted of aviaries, a bear pit, with ponds, etc. In May, 1865, the Garden was opened to the public, which gave the liveliest sympathy to the budding undertaking. The Garden did not escape hard times on account of the wars in 1866, 1870 and 1871, but it finally overcame all difficulties. Especially after 1870 rapid progress was made; paths and roads were im-

proved, and an elephant house and a new concert-hall were erected, gas and water were laid on, the approaches from the town were brought into use for heavy traffic, and the laying down of a tramway made it much easier to reach the Garden. Mention must be made here of a generous present of 15,000 thalers from the Emperor William I. on the occasion of his visit to Hanover, given after an inspection of the Garden. This money was spent in building the lion house. Herr Theodor Ostrogge, for a long while the Chairman of the Council, and Herr Schluter must also be mentioned as especially warm supporters and generous friends of the Garden. In the first few years a change in the direction twice took place. Veterinary-surgeon Christoph Kuckuck was Director in 1874, and filled this office to the great benefit of the Garden until his death, after a long illness, in 1893. After the death of Director Kuckuck, Dr. E. Schäff, the present Director, was appointed.

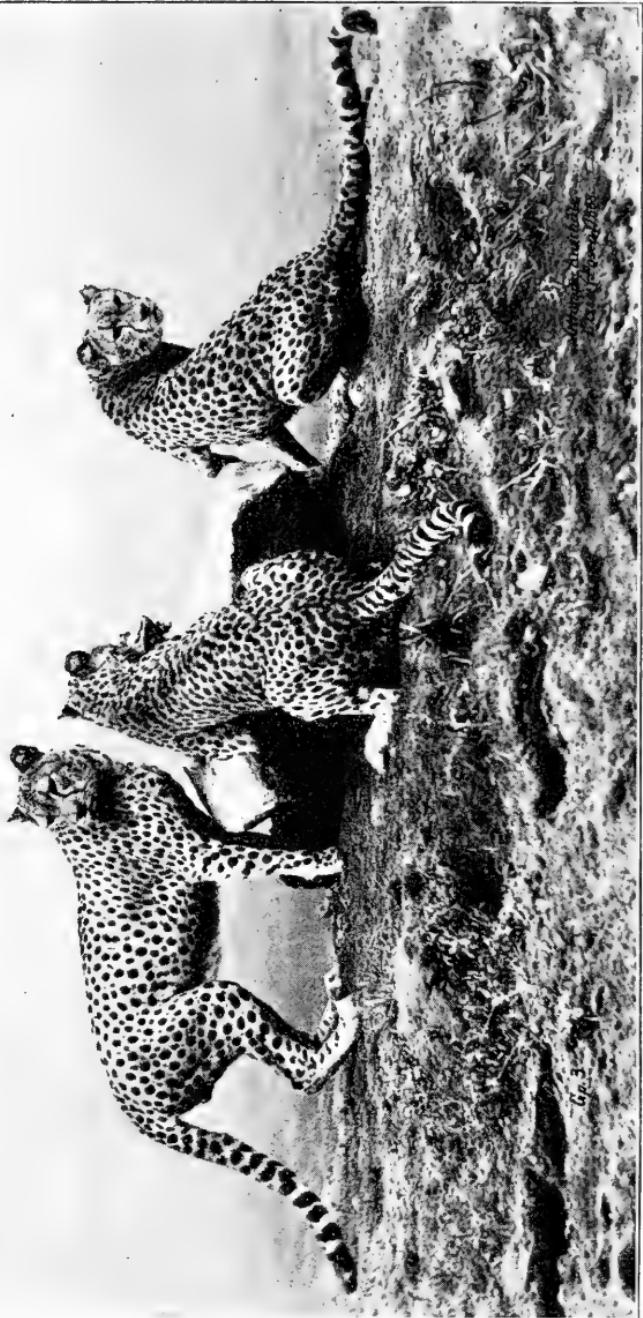
Yearly season tickets for a family cost 15s. By a family is understood husband, wife, and children. A necessary servant with little children enters free. Sons who have left school enter by single tickets at 7s. 6d. a year each. Female companions, nursery governesses, and pensioned servants are not included in the family ticket ; they must pay 3s. extra a year in addition to the family ticket. A ticket for two persons, comprising a family, such as a man and wife (without children), two sisters, mother and daughter, etc., 12s. ; for single person, 7s. 6d. ; for high school and military school students, 5s. ; for strangers (fortnightly), 3s. ; for strangers (monthly), 5s.

Herr Hilpert's philharmonic orchestra (wind instruments), under the Imperial Music Director, Bruno Hilpert, performs in summer (on Mondays, Wednesdays, and Thursdays) in the afternoon from 4 to 8. On Tuesdays, Fridays, and Sundays there are two concerts, from 4 to 7 p.m. and from 7.30 to 10 p.m. In the winter string-instrument concerts, Mondays, Wednesdays, and Thursdays, from 3.30 to 7; on Fridays symphony concerts from 3.30 to 6; on Sunday 3.30 to 6.30, and from 7 to 9.30.

Dogs, parrots, ornamental birds and animals are for sale in the Garden.

How wonderfully well built these German cities are! There is scarcely a town in England which can compare in beauty and picturesqueness with such cities as Düsseldorf, Cologne, Hamburg, Berlin, or Frankfort-on-the-Main, with their great wide streets avenueed with trees, their artistic buildings, the lavish display in public places of statuary of a high order, and the ease with which one can find one's way about.

The Zoological Garden in Hanover is well worth a visit. It is situated in a shady wood, and contains some very quaint houses. The first house one encounters is devoted to cranes and herons. In the centre of the Garden is a duck-pond with an island in the middle, upon which are placed what look like tiny dog-kennels. In these little houses the waterfowl build their nests. In the monkey house were a hamadrya and a remarkably fine baboon, both animals comparatively rare in collections. There is a substantially built bear castle well filled, and close to it is the concert-hall, in which



CHEETAHS OR HUNTING LEOPARDS.
(Photo by Ottomar Anschütz, Berlin.)

a fine band was playing when I visited the Garden. From the top of a high arch of rockwork a view of the whole Garden can be obtained, but there are so many trees in it that the view is somewhat disappointing. There is a large and handsome antelope and camel house, with dome and minarets, containing Shetland ponies, camels, zebus, white-tailed gnus, an *Oryx leucoryx*, black buck, an ostrich, a rhea, some donkeys, a zebra, a roan antelope, and a Cape hartebeest, the last two rarely seen in collections—in fact, the Cape hartebeest is the first I saw on the Continent. He was very nervous and restless, and utterly refused to stand still to be photographed. A lion house contained two remarkably fine lions.

It is curious how wonderfully well lions thrive in captivity and what fine manes they grow. I have seen several lions in the African jungle, but not one had a mane to compare with those carried by menagerie beasts. This is accounted for partly because in a cage there is no thorn-bush to tear the hair, and partly because the food is better and more regular, causing less mange in the skin. Besides lions there were leopards, pumas, cheetahs, a black leopard, and some tiny bear-cubs in the lion house. In a house built just like a church with a steeple was a huge Asiatic elephant, a smaller elephant, and a hippopotamus. Pens of yak and American bison, several deer, dogs, and wolves, and a parrot house brought a very interesting collection to a close.

Crowds of people watched the animals, listened to the band, or drank coffee in the restaurant, the extremely pretty uniforms of numbers of soldiers adding to the picturesqueness of the scene.

CHAPTER XVIII

ZOOLOGISCHER GARTEN, HAMBURG : DIRECTOR,
DR. BOLAU

ON January 28, 1860, Baron Ernst von Merck, Herr H. Meyer, Consul Schiller, General Consul de Craecket, and others met together and formed a provisional company for the founding of a Zoological Society, the main end and aim of which should be to settle the site of a Zoological Garden in Hamburg. Baron Ernst von Merck was elected President and Herr H. Meyer Vice - president, whilst Consul Schiller was made Treasurer.

On July 10, 1860, the first general meeting of the shareholders took place to consider the construction of the society and the making of regulations. The directors approached the Municipal Council with a view to obtaining a suitable site for a Zoological Garden, and the Council gave a plot of land to the society free of ground-rent for fifty years. The buildings were at once taken in hand by Herr Meuron and Herr Haller, and the landscape-gardening by Herr Jürgens. The capital was taken up by 800 shareholders.

The preparing of the land, which consisted of a large sand-desert, occasioned endless trouble and waste

of time and money, especially at the beginning. The Directors, however, were not discouraged, as they were helped not only by large presents of animals, but also of building materials, etc. An otter basin was paid for by Baron von Merck, who, with other gentlemen, gave an important contribution to the bear pit. The main entrance-gate, the wapiti house, the seal enclosure, the tapir house, the antelope house, and the drainage system of the grounds were all given by various individuals. The ladies of Hamburg and Altona opened a subscription, which resulted in the building of an ostrich house.

In November, 1862, the greater part of the buildings were finished. The Directors, however, were obliged to issue more shares in order to enable them to make other buildings, and especially an aquarium. This new issue of capital was authorized on November 20, and within twenty-four hours the new shares were all taken up.

On May 26, 1863, the company presented the Garden, brightly decorated for the occasion, to the shareholders, and on the following day it was opened to the public. On July 6, 1863, the Garden suffered an irreparable loss in the sudden death of its President, Baron von Merck, who was greatly regretted by the whole of Hamburg. A bust was placed in the concert-hall to commemorate him.

In 1864 the Direction was authorized to build a Winter Garden and a large restaurant. The aquarium, a rectangular building 26 by 11 metres in size, was opened April 26, 1864. The floor is laid deep under the surface of the earth to insure an even temperature

all the year round. Spring and autumn are the best times to transport fish to the aquarium, as in the extreme heat of summer many die.

Presents flowed in from all parts of the world every year. Herr Meyer presented the Garden with the owl tower. A second small-cats' house was presented by General Consul Gustav Mutzenbecher.

In the spring of 1885 the society had to bewail the loss of another President, Dr. Schwartze, who had acted as chairman of the society for many years. Dr. Heinrich Bolau is now Director of the Garden.

In December, 1899, there were 468 animals, 1,749 birds, and 187 reptiles in the Garden ; 46 animals and 162 birds were bred in it.

In 1900 the income was £16,109 16s., exceeding that of the year before by £651.

Not only does the Liverpool of Germany possess one of the largest Zoological Gardens, but also the fifth most valuable collection of animals in Europe.

On paying one mark entrance fee, one is confronted first by two large deer enclosures with thatched shelter-houses in the centre. Close by is a lofty bird-of-prey aviary. Beyond an Australian wombat and some pens of kangaroos is a pretty pen of doves, wading birds, and ducks, in which are planted some little Christmas-trees. We next come to the monkey house, which, however, is small in comparison with ours in London. In the centre of the Garden is a huge duck lake, with a very large concert-hall and café opposite. Keeping to the left of the lake, a four-horned sheep from Morocco is to be seen. This animal



THE MONKEY HOUSE, HAMBURG.

greatly resembles the four-horned sheep found in the Outer Hebrides off the coast of Scotland. At the bottom of an imitation ruined tower are some bear pits and owl pens. It is a stiff climb to the top of the tower, but from it one gets a good view of the Garden and the surrounding city. We next come to three very large cages containing bears of three species, and



STORK AND CRANE ENCLOSURES, HAMBURG.

then we pass through what appears to be an overflow house, which contains leopards, jaguars, and a host of guinea-pigs. Rather tantalizing it must be for the leopards to smell the luscious porkers and not be able to get at them; but perhaps, by-the-by, the guinea-pigs were given to the panthers as food.

Close by the ostrich and rhea pens is a charming Egyptian house, with a pond in front of it, in which

waded several storks, cranes, and sacred ibises. This was followed by a second duck-pond, backed by a large rockery. We now come to a very realistic scene in the shape of a rockery and pond containing seals and cormorants. This is followed by yet another duck lake. Passing on, we come to the elephant house. This house, built in 1880, contains elephants, a hippopotamus, buffaloes, and wild asses. There is an Indian elephant here which possesses the longest pair of tusks I have ever seen in a captive animal. (The largest African elephant, however, is in the Jardin des Plantes, Paris.) He is a remarkably fine-looking creature. In the centre of the hall is exhibited a pair of tusks which are very even, but not nearly so fine. The hippopotamus was roaring in fine style, turning back somersaults, and plunging about in a manner quite unusual in a captive specimen. In the same house were a smaller Indian elephant and quite a young African elephant. Next in order was a small-birds' house containing German birds, with the eggs of each displayed in glass cases.

In the antelope house were a pair of the Southern form of giraffe, Arabian gazelle, black buck, zebus, West African inyala, with four young ones born October 21, 1901, some nylgai, a young roan antelope, an *Oryx leucoryx*, and a pair of water-buck.

In an outdoor shed and paddock was a magnificent American bison, shedding its winter coat. The lion house, built in a crescent shape, with indoor and outdoor cages, contains some remarkably fine animals. There are a number of lions and tigers in a cage together, a Cape hunting-dog, leopards, and hyenas.

One lioness had the most brilliant yellow coat I have ever seen. Opposite the inside cages are glass cases containing some large crocodiles, lizards, tortoises, snakes, and salamanders. Close by is an extremely well-built and well-kept small-rodents' house, full of rare little mammals. There are red river-hogs and the capybara, or great tailless rat of South America, as big as a small pig.

During my rambles I lost a part of my camera, and spent a long time in looking for it. But, luckily, one of the keepers picked it up and very kindly found and gave it me, much to my relief. It was a most miserable day when I visited this Garden, and, of course, it did not look its best ; still, it could not, I feel convinced, compare in beauty with many other smaller Gardens, though it is undoubtedly very wealthy in animals.

CHAPTER XIX

ZOOLOGISCHER GARTEN, BERLIN : DIRECTOR, DR. HECK

THE history of the Garden at Berlin is divided into three periods ; the first embraces the time of preparation and the foundation, from 1841 to 1869.

This Zoological Garden is the third oldest in Europe, and the oldest of all the German Gardens. The credit of its foundation belongs to the well-known Berlin zoologist and African traveller Lichtenstein, who could hardly have realized his intentions had not the Prussian Royal House given its favour to this public-spirited undertaking. Not only is this shown by the opening mandate issued by Frederick William IV. on May 7, 1845, but by the presentation of the royal pheasantry to the Company of the Zoological Garden. At the same time the Emperor made a grant of £3,000 to the society, which was increased by £2,000. The greater part of the Emperor's own animals and birds were also transferred to the Zoological Garden.

On August 1, 1844, the Garden was opened. For the first twenty-five years of its existence the arrangements were particularly modest. In March, 1846, there were not 100 kinds of animals in the Garden, and there were only half a dozen houses. In 1868 only 191 shares of £15 were taken up by the public.

Owing to the then great distance from the town, the Garden progressed but slowly for a long time. In 1848 the income was only £900, and these first twenty-five years must count as the infancy of the Garden.

The second division of the Garden's development begins with the year 1869. Professor Peter, the successor of Dr. Lichtenstein, undertook, with the then Minister of Finance, Von der Heydt, to reconstruct the Company. A thousand new shares were issued in exchange for old ones. Estimates for the plans of large buildings were drawn up, and the direction was altered in a conspicuous manner, Doctor Bodinus, who came from Cologne, being placed regularly in charge of it. Imposing and artistic buildings were erected, and the lion house was altered so as to look like an African house.

In 1869 the restaurant was opened.

In 1870 a new lion house and bear pit were built; in 1872 an antelope house; in 1873 an elephant house; in 1874-75 a great concert-house; in 1883 a new monkey house was erected.

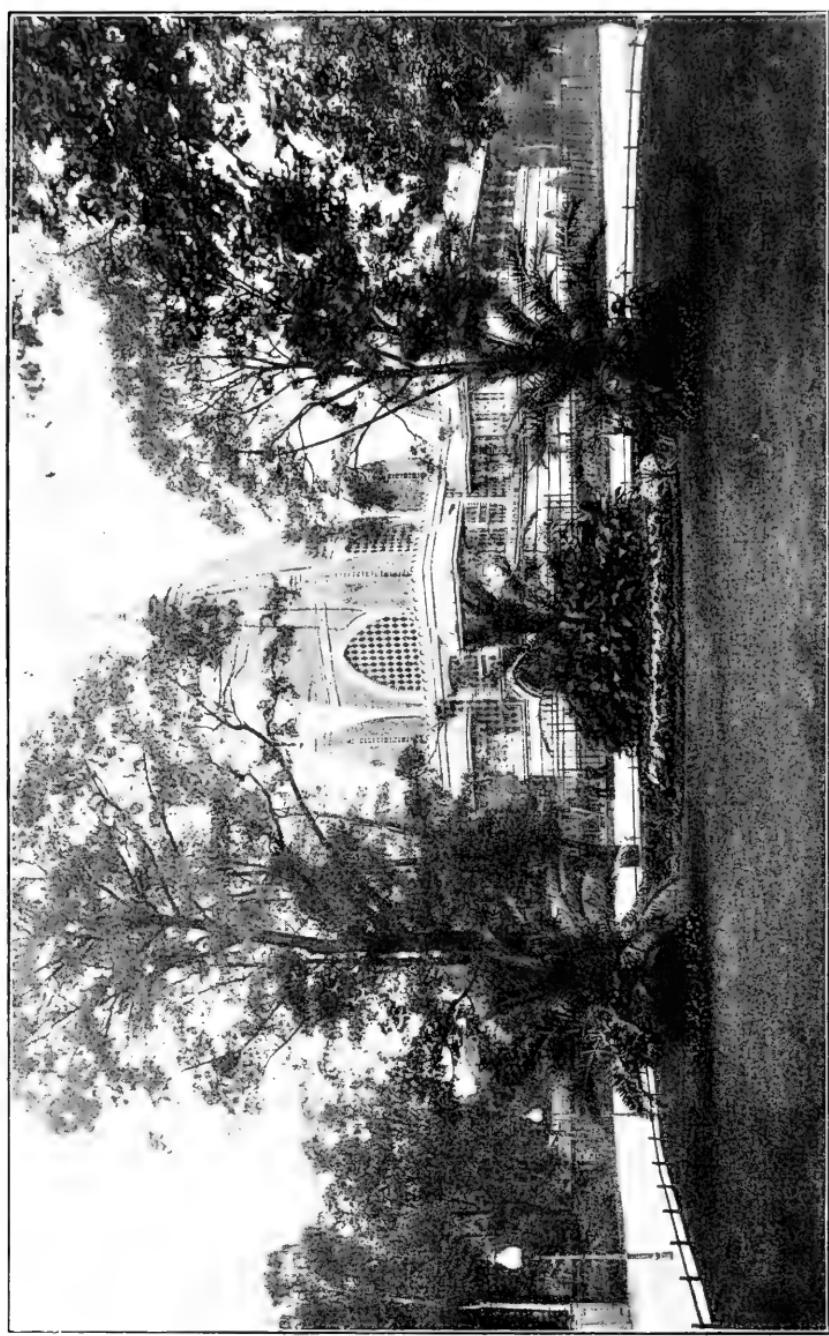
At the same time the Garden rose to the highest place in public favour, owing to its public concerts, which, until 1884, were held three times a week under the direction of Herr Wieprecht. In 1884 electric light was introduced. Daily double concerts were instituted at half-price, and brought a great number of people to the Garden. In 1900 the entrance money taken amounted to £27,321, and the season-tickets brought in £5,849. In 1884 Director Bodinus died. Dr. Max Schmidt was named as his successor, he having for twenty-five years looked after the Zoo-

logical Garden at Frankfort-on-Main. In 1888, however, he died, and Dr. Ludwig Heck, who came from the Zoological Garden at Cologne, was chosen as Director. In his first year he devoted his attention to increasing the stock of animals, with the result that now 25,000 living creatures are to be seen, including 12,000 species of animals and birds.



LLAMA AND MOUFFLON ROCKERY, BERLIN.

In 1893-94 the drainage was renewed ; in 1895 the new wing of the well-arranged aviary was built ; in 1896 a new deer house and a goat and sheep house were built ; in 1896-97 the beautiful stork and crane house ; in 1897 the camel house ; in 1898 more deer houses, moufflon rocks, and two restaurants were erected, and other improvements made. This period,



ELEPHANT HOUSE, BERLIN.

from the death of Dr. Bodinus in 1884 to the death of General Duncker in 1897, forms the second division in the history of the Berlin Garden.

The year 1897 marks a new period in its history. The eclat of the Garden as a place of amusement, the increased number of specimens, and the favourable position of the site in the west of Berlin led to the new organization of an institution which was so promising.

In 1898 1,000 new preference shares were issued, and a second increase in capital brought the total capital of the Company up to £113,500. By this means numerous alterations and improvements were undertaken. A new official residence was erected, and Japanese and Chinese pavilions, coffee houses, bridges, halls for children to play in, lavatories, machine houses, a pump house, three new pig houses, improvements in the antelope house, new llama rockery, and refrigerators for dead fish were made. A view-tower, pheasantry, and many other minor improvements in walls, banks, bridges, and ponds were added. Herr Begas presented one of his celebrated centaur statues, and Uechtritz a nymph with swan. All these things have made the Garden more attractive, and all Berlin comes to see them. The Garden and restaurant are visited by 60,000 people on a fine Sunday in the summer.

We will now walk round one of the finest Zoological Gardens in Europe, and, indeed, in the world, as it is at the present moment well ahead of our London Garden, both in the value of its animals and also in the magnificence of its buildings. Some of the latter

are truly remarkable structures, being finely painted and decorated, and fitted inside with the very best up-to-date arrangements for the health and comfort of the animals.

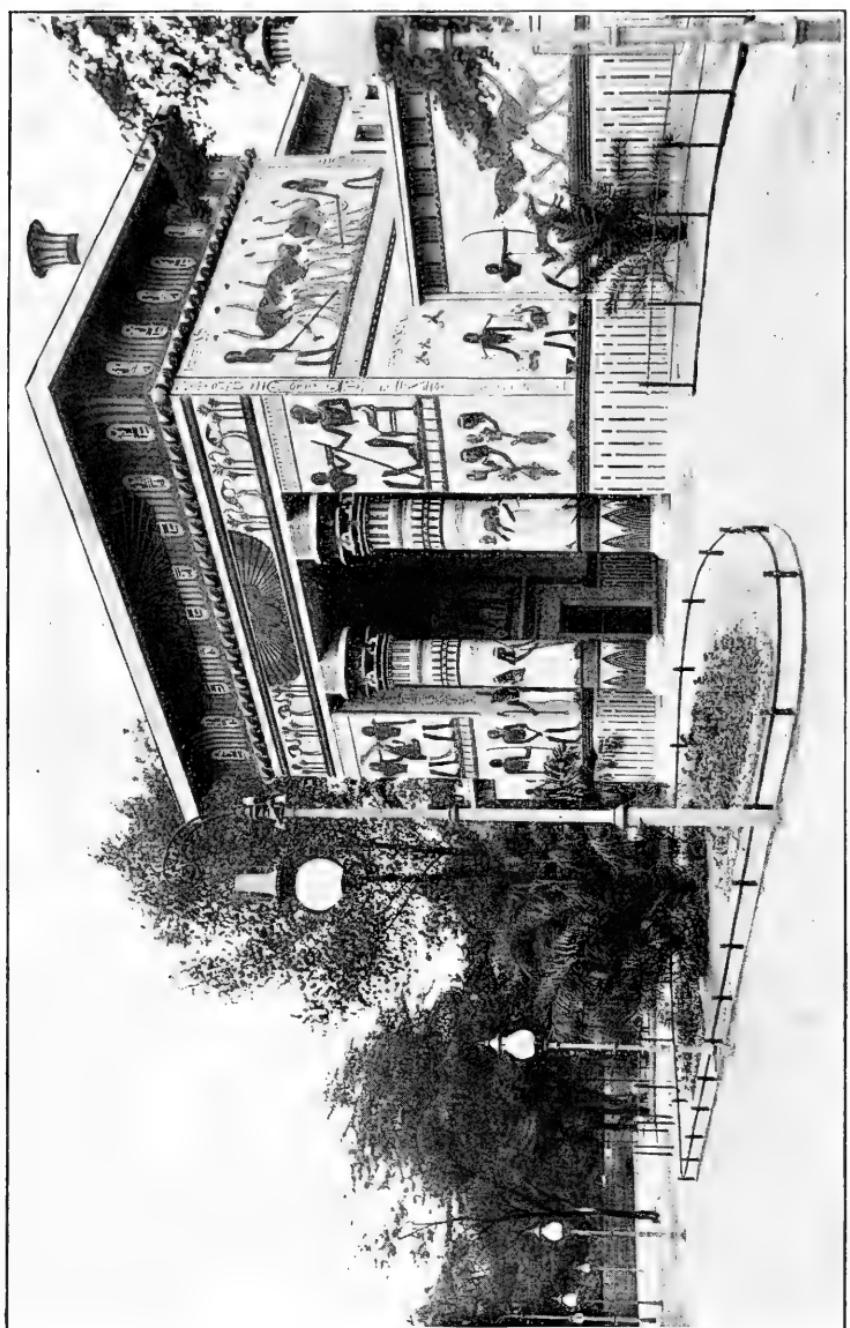
After I had paid one mark at the entrance, my camera was immediately pounced upon ; I hope it may not be thought to be 'sour grapes' if I add that it poured with rain the whole day when I visited the Garden, and that most of the animals were housed indoors.

Turning to the left round a very large *café*, with seats outside capable of accommodating several thousand people, we come to a very large and lofty bird-of-prey aviary. Close to a children's playground will be found some stables, containing common domestic asses, Somali wild ass, Burchell's and mountain zebra—a cross between a donkey and a zebra—and the inevitable Shetland pony, with which they always seem so pleased in Continental Gardens.

The lion house, constructed on the very best principles, is one of the finest in Europe, and contains German East African and Somali lions, tigers, leopards, black leopards, jaguars, and a very curious light-coloured variety of the jaguar, the only one known in captivity.

There were some cleverly constructed duck-ponds with pleasing rock-work, trees, and waterfalls, and opposite to them was a large crane house. Several of the houses are built in exact imitation of Chinese and Indian temples and pagodas, which give the Gardens a very Eastern appearance.

After passing several large duck and swan lakes and



OSTRICH HOUSE, BERLIN.



DEER SHED, BERLIN.

a wild-sheep rockery, we come to the monkey house, which, however, is comparatively small and disappointing. In front of some pretty beds of tulips is a truly magnificent elephant house, built in imitation of a Hindoo temple, the domes painted in yellow, brown, and blue. In the centre of this palatial house is placed the skeleton of a full-grown elephant. The ceiling is supported by huge columns, with two carved elephant-heads on the top of each. The house contains three Indian elephants, two African elephants, one Indian rhino, and some tapirs. Huge sliding-doors lead out into large open-air paddocks fitted with baths. Behind the elephant house are the wild-swine sheds.

We now come to another finely decorated and well-constructed house—the ostrich house. It is painted inside and out with large, ancient Egyptian figures of men and birds. At one end of the interior is a very realistic painting of two huge stone Egyptian figures in a sitting position, bathed in a gorgeous sunset. The columns and the ceiling in this house should also be noticed. It contains a good collection of ostriches and cassowaries. The next house with large water-tank contains two hippopotami. Opposite a high tower (entrance fee ten pfennig, which goes towards the animals' food) is a very long line of pheasant pens, all prettily planted with tiny shrubs and trees.

Passing a large llama and tahr rockery we come to the antelope house, built in an oval shape with minarets, the huge balls at the top covered with gilt. It contains some rare animals. There are water-buck, harnessed antelope, inyala, several *Oryx leucoryx*, two addax, a beautiful pair of giraffes (South African form),

a blesbock, two eland, one roan (*Albifrons*), two tora hartebeest, one Cape hartebeest, and one Lichtenstein hartebeest, the last four species of antelopes being very rarely met with in captivity. In quaint brown houses inlaid with white are several dwarf antelopes from the Cameroons and other parts of Africa, the whole collection forming one of the most complete in the world.

In the centre of this house with its glass roof is a large fernery with a realistic group in stone of a lioness and her cubs. All the antelope cages have outdoor paddocks attached. Opposite this house are several deer sheds and a long line of buffalo and camel sheds, containing animals too numerous to mention, and stretching for over 100 yards in length.

There is one remarkably pretty deer shed with pointed roof and red tiles. Close by is a seal pond, and not far from the entrance will be found the bear dens, containing the finest collection of bears in Europe. There are concerts in a large hall every night and special ones on Sundays.

Taken all round, this Garden is far and away better than any other garden at home or on the Continent for the beauty of its buildings, the picturesqueness of its grounds, and the wealth of its animals. This state of things has been brought about in a large measure through the energy and forethought of the Emperor of Germany, himself a sportsman and lover of animals.

CHAPTER XX

ZOOLOGISCHER GARTEN, HALLE

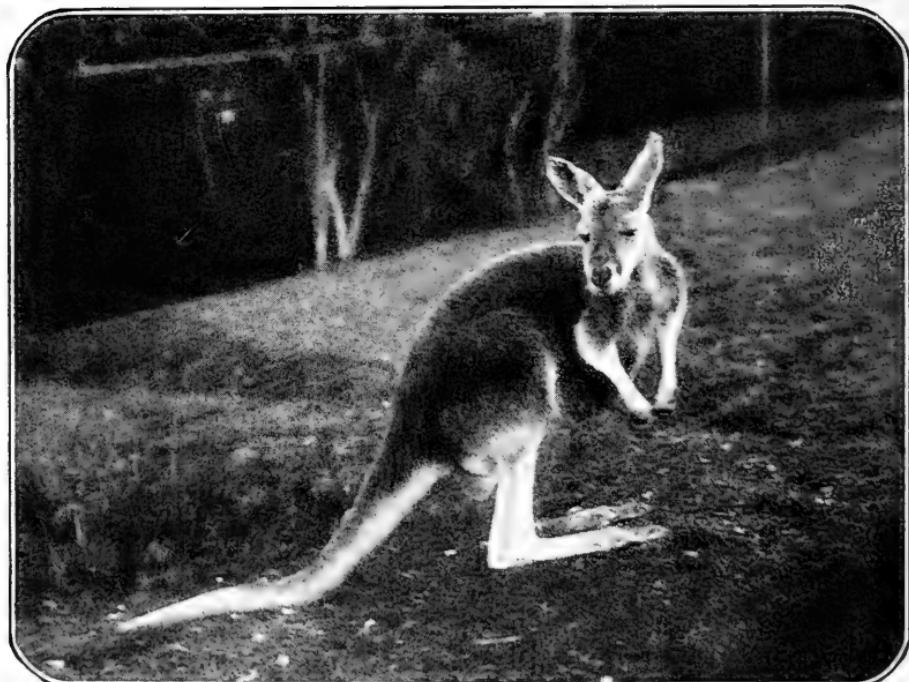
THIS Garden lies in a romantic position in the Reilsberg, and offers a fine view of the surrounding country. The air here is very keen and bracing. The animals are arranged with peculiar taste in idyllic little groups of cages.

Entrance for adults fifty pfennig, for children thirty pfennig. On Sundays and fête-days the price of entrance is specially announced in advertisements and in the papers. Family tickets, inclusive of a servant, 30 marks; these admit to all concerts. There are four ordinary concerts a week in the summer and one grand concert. Special arrangements are made with Corporations and schools. Perambulators only allowed up to 1 p.m. The garden is opened in summer at 7 a.m., and from October to April at 9 a.m. The animal part of the Garden is closed in the evening by a signal from a horn. The flowers are not to be plucked, and the animals are not to be teased nor fed except with the special food which can be bought in the Garden.

After a very long drive in a cab drawn by two horses, for which I paid the extraordinarily small sum of 1 mark (1 shilling), the Zoological Garden, built round

a small hill outside the town, was reached. Turning, as usual, to the left, a small Indian elephant is to be found in a house by himself. The lion house is next, and contains lions, tigers, pumas, leopards, hyænas, and a handsome African civet. There are some rather pretty duck and wading-bird ponds.

Winding walks lead round the hill and deer pad-



KANGAROO, HALLE.

docks, and kangaroos, wild swine, some small monkey houses, and a very good collection of goats are to be seen. On the top of the hill a spiral staircase can be ascended, from which a good view is obtained of the surrounding country. There were torrents of rain and crowds of country people when I saw this Garden, it being Whit Sunday.

CHAPTER XXI

ZOOLOGISCHER GARTEN, LEIPZIG : DIRECTOR, DR. ERNST PINKERT

THE Zoological Garden in Leipzig has gradually worked itself up from very small beginnings to its present greatness and extent. It was, indeed, the present Director, Herr Ernst Pinkert, who, so to speak, laid the foundation-stone in 1876 with a little house for crocodiles. Through his energy and business activity, he succeeded in a relatively short time in bringing the Garden up to its present high standard, and in creating an institution for which the Leipzig people are much indebted to him.

In 1899 Herr Pinkert's incessant energy and organization were rewarded by the Garden being purchased by a company of shareholders, who appointed him Director.

The Company of the Zoological Garden ended its first business year at the end of 1899. Allowing for the unavoidable disturbances caused by storms in the summer and by new buildings being erected, the first year was financially a success. The report for 1899 showed a clear profit of £403. Whilst the Ashanti Exhibition was being held on June 4 the Garden was visited by 19,718 persons, constituting a record day.

During the year 196,388 people entered the Garden, exclusive of family season-ticket holders, who numbered 688 of the shareholders.

Picture-postcards, programmes, and guide-books brought in £85. The stock of animals at the end of 1899 included 14 monkeys, 110 carnivorous animals, 135 rodents, 1 elephant, 96 cloven-footed animals, 3 hoofed animals, 8 kangaroos, and 1 duck-billed platypus.

Sixty animals were presented to the Garden, and the following were born in it: 8 lions, 1 jaguar, 2 leopards, 10 hyænas, 1 white Angora cat, 5 Gordon setters, 12 fox-terriers, 3 silver rabbits, 15 common rabbits, 15 Angora guinea-pigs, 25 common guinea-pigs, 2 bisons, 1 beisa antelope, 1 zebu, 2 dwarf zebus, 1 yak, 1 wapiti, 1 axis deer, 1 Japanese deer, 1 guanaco, 1 llama, 7 sheep, 2 kangaroos, 5 peacocks.

The losses by death were, however, considerable, 9.2 per cent. of the stock being lost during the year.

Of the more valuable animals were lost: 2 young male lions, 1 female puma, 1 brown bear, 1 chimpanzee, 1 male mandril, 1 llama, 1 male elk, 1 pair of axis deer, 1 wapiti cow, 1 young male bison.

Miss Claire Heliot, with her nine lions and two dogs, proved a great attraction between July 22 and September 3. The number of members on the committee was raised from nine to ten. A large main building was proposed, which should contain a restaurant, a concert-hall, etc. A fodder-house, a Director's house, and several animal houses were built. Herr Rust, the architect, was entrusted with the carrying out of these important works. The fodder building, thanks to a

mild winter, was ready for use by the beginning of May, and proved most useful. The other buildings made satisfactory progress. On May 10 the foundations of the large main building were laid. The Director's house was nearly finished. The concert-garden was planted with stately trees. No less than £25,000 were spent upon these improvements.

In 1900 the clear profit was £600; 244,914 people entered, besides 831 season-ticket holders. Miss Heliot, the celebrated lion-tamer, on August 5 attracted the record number, 17,197 people paying to see her show.

The following animals died in the Garden: 1 full-grown lioness, 2 servals, 1 ocelot, 1 racoon, 1 guanaco, 4 llamas, 1 elephant, 1 beisa antelope, 1 elk, 2 axis deer.

On the other hand, 7 lions, 5 hyænas, 6 mastiffs, 3 St. Bernards, 5 fox-terriers, 2 zebus, 1 gnu, 1 sambur deer, 2 Sardinian moufflon, 1 sika deer, 26 Angora guinea-pigs, 55 common guinea-pigs, and 7 common rabbits were born; 57 animals and birds were presented to the Garden, besides valuable pictures, a quantity of trees, shrubs, and flowers, palms, armour, a beautiful clock, and other gifts.

On May 2 the Director's house was inhabited. On June 3 the newly-planned concert-garden, with its splendid building for the orchestra, was finished. The restaurant was opened on June 2.

On September 29 the main building, containing the garden-saloon, terrace, and concert-hall, was formally opened. A banquet was given in the evening, at which the highest dignitaries of the city presided.

In the same year, also, the new monkey house was almost completed.

In 1901 the net profit of the Company was £3,796. In the Garden were the following animals: 430 mammals of 97 species—52 monkeys, 96 carnivorous animals, 141 rodents, 1 elephant, 5 hoofed animals, 125 cloven-hoofed animals, 8 marsupials, 1 duck-billed platypus.

In 1901 died: 1 female orang-outang, 1 chimpanzee, 1 male adult lion, 1 female lion, a number of young lions, 1 jaguar (small female), 1 serval, 3 hyænas, 1 pair of wolves, 1 sable antelope, 1 beaver, 2 axis deer, 6 kangaroos, 3 ostriches, 1 emu, 1 black-necked swan, 2 flamingoes, 2 storks.

The following were born in the Garden: no less than 16 lions, 2 jaguars, 8 hyænas, 13 fox-terriers, a number of other dogs, 3 Sardinian moufflons, 1 yak, 12 wild swine, 4 goats, 2 zebus, 1 Japanese deer, 1 sambur deer, 3 wapiti, 3 kangaroos, 25 Angora guinea-pigs, 37 common guinea-pigs, 9 common rabbits, 35 Turkish ducks, 2 golden pheasants.

Twenty-six animals and birds were presented to the Garden. Nearly all the buildings were completed; the opening of the new lion house, however, was delayed. The projected new elephant house was also put off for a while.

During the year there was an exhibition of living pictures, and a troupe of natives of Samoa performed in the Garden.

The Garden is open from early morning till late at night. Entrance 60 pfennig, children 30 pfennig. On the first Sundays of the months of May, June, July, August, and September for grown-up people the charge is 30 pfennig, and for children 15 pfennig. After 7 p.m.

the price of entrance is less. On fête-days the committee reserve the right of raising the prices.

Season-tickets for families of 3 people are 20 marks ; for more than 3 people, 25 marks ; for one person, 10 marks ; for students, schools, etc., 5 marks.

Shareholders have free entrance on showing their cards, which are not transferable. On fête-days the Director can order extra payment to be made by the shareholders. No dogs are admitted, and no teasing of the animals is allowed. No walking on grass or flower-beds, and no picking of flowers is permitted. No animals may be fed with grass or foliage, nor with cooked or raw meat. No one may get over the barrier, the penalty being eviction from the Garden ; and the offender is also answerable for all damage done either to himself or to the animals.

After passing the turnstile, one is confronted with a large artificial rock-work grotto and waterfall. Passing through a second fine grotto, we see pheasant pens, and next to them some bear dens, the latter with hand-painted backgrounds. The lion house is brand-new, and well built and appointed. It contains a valuable collection of big cats, including several lions (one with a magnificent mane), two baby lions, and two baby servals a few weeks old.

It being Whit Sunday when I saw the Garden, the crowd was so great that one could scarcely get through the house. At the end of it was a well-executed stained-glass window, depicting two lions among rocks looking over a large open plain.

There are some large duck-ponds and a house for

wading-birds. The antelope house contains nylgai, *Oryx beisa*, *Oryx leucoryx*, white-tailed gnus, several zebras, and a tiny black bear cub.

In another house was the finest collection of striped hyenas I have as yet seen together. There was a new and well-built monkey house, but the crowd was so dense that it was impossible, in the short time at my disposal, to see the whole of the contents of it. I noticed, however, some fine baboons. Crossing a bridge, you come to deer and buffalo pens together, with cages containing smaller animals. The Garden walks had just been re-covered with fresh gravel, and the deluge of rain soon converted these walks into two inches of mud, through which the crowds of men, women, and children were obliged to wade. It was almost impossible to take photographs, owing to the rain and the huge crowds of children, who would insist on collecting before the lens directly one took out one's camera.

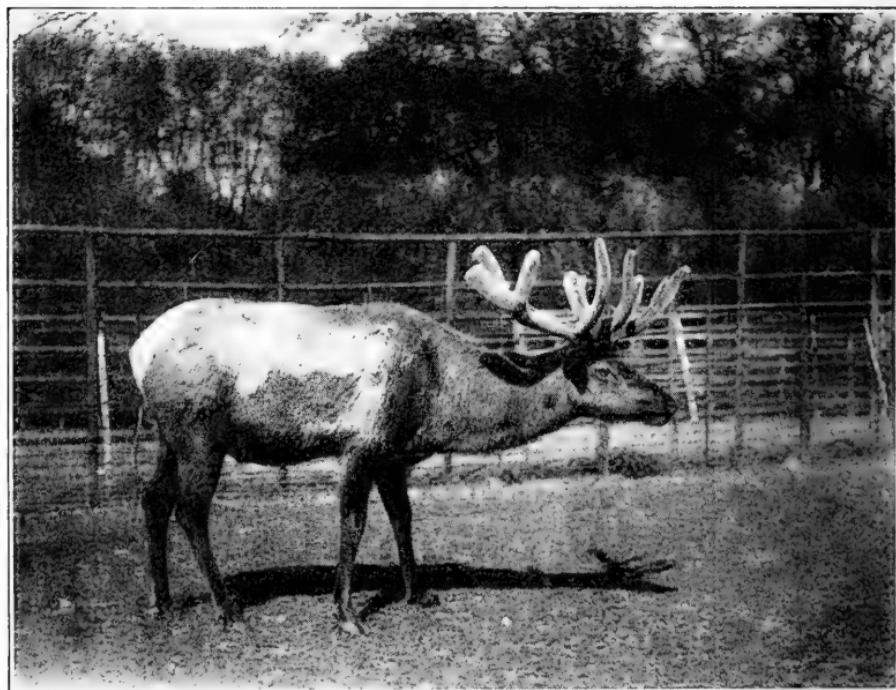
CHAPTER XXII

ZOOLOGISCHER GARTEN, DRESDEN: DIRECTOR, HERR A. SCHÖFF

IN 1859 a beginning was made by a society of poultry-fanciers. They laid out a small Garden in the Ostra Avenue, which, although badly situated, found a good deal of favour with the public, and was successful financially. A committee of twenty gentlemen desirous of founding a Zoological Garden met in 1860 for the purpose of taking over the bird-fanciers' Garden and adding to it, the intention being to issue shares under the name of the Zoological Garden Company of Dresden. His Majesty the King presented to the Company, through the Finance Minister, that part of the royal Garden known as the Poets' Walk and reservoirs. The co-founder of the Zoological Garden in Berlin laid out the plans for the Garden, and the King and Queen and Royal household gave it their highest approbation. Every kind of wild animal was to be kept in as free a manner as possible. And the founders conceived the idea of laying out, between the animal buildings and the neighbouring houses, a park and garden for the public, so that, besides the interesting sight of the animals, there should also be a pleasant promenade.

A sum of £20,000 was spent on the laying out of

the Garden, on the animals, and on buildings for them. The price of one share was £10, payable by instalments, and 2,000 shares were issued. The holder of one share was allowed free admittance to the Garden ; the holder of two or more shares could enter with four of his family.



WAPITI BULL, DRESDEN.

The most flourishing period for all Zoological Gardens —when it became a mania to found Gardens in every town—began in the early sixties. Then there came a reaction. In 1859, 21,462 people paid to enter the old Garden at Dresden, paying £349 ; the cost of keeping it up was £236.

The site was a beautiful one. Thirty-nine animals

and 184 birds came from the old poultry-fanciers' Garden. The city architect was authorized to erect the buildings, which were commenced at once. In the autumn of 1860 a massive monkey house was begun, which at the same time could be used as a winter house for other small animals. This building cost about £1,248. A bear pit, built of stone, for three kinds of bears, cost £560, and some enclosures for deer and aviaries for eagles and vultures were erected. Additions were made to the old so-called restaurant in the shape of pavilions, a veranda, and a large hall. More animals were added, until the value of animals bought and given was estimated at upwards of £752.

On Ascension Day, May 9, 1861, the new Garden was opened in a heavy snow-storm. Since that day the management can look back with satisfaction on its history. But more than once has the Garden had to fight for its existence. To-day its financial affairs are satisfactory, its buildings in good repair, and its stock of animals richer than ever before.

A small-birds' house was built in the winter of 1883. In 1884 a Himalayan bear had two cubs, one of which was an albino, absolutely white with pink eyes. It was often taken for a polar bear. It was very small when born, about the size of a large rat, and it developed very slowly. One day it fell into the bath and received a severe shock, trembling in every limb. Its mother, however, fished it out. The mamma bear fed its offspring on the nicest bits it could get, but the little one soon grew very cunning. This wonderfully rare animal was the pride of the whole Garden.

A fish-breeding establishment also exists here. In 1884 the first eggs were received—1,000 salmon and 1,000 trout. The old monkey house was so damp and unhealthy that a new one had to be built in 1886. In 1890 and 1891 a large number of animals and birds was acquired, including bull and fox terriers, hares, mice, tortoises, wolves, sheep, doves, finches, gold-fish,



OUTSIDE THE LION HOUSE, DRESDEN.

etc. In 1900 there were born in the Garden: in April, 8 cross-bred swine, 1 Angora sheep, and 1 mouflon; in May, 4 wolves, 2 Barbary sheep, 2 deer, 1 Burchell's zebra, and 1 wild ass; in June, 1 Indian buffalo, 1 hog deer, and 1 cross-bred ass; in July, 1 wild sheep. And in February, 1901, there were born in the Garden: 1 Indian buffalo, 1 wild sheep, and 2 mouflons (cross

bred); and in March, a hog deer, 10 cavies, 19 mice, 1 Angora sheep, and many birds.

Here follows the usual final benediction from the guide-book :

‘ May the favour of the Royal house, of the magistrates and the public go on for ever, and may it always be an ornament of our beautiful Dresden ! ’



A FOUR-HORNED GOAT, DRESDEN.

This is a very large Garden, situated in a wood. On entering at the west gate, one is confronted with jackal dens. There is a very good lion house, which contains, besides a fine collection of the larger cats, some Australian dingoes or wild dogs, seldom seen in collections. Passing on, we come to what evidently

was a giraffe house, but, alas ! the animals are no more. The handsomely painted antelope house contains a very fair collection, including, amongst others, a beautiful pair of water-buck. There were also camels, zebras, and an Indian anoa ; the latter, again, is seldom seen in captivity. The collection of wapiti 'hog' and other deer is really good. There was a monkey house, well built and well filled. Close by some wolves' dens there was one of the few specimens of chamois I have seen in captivity. Near some American bison sheds is a goat with four remarkably shaped horns. Close by is a bears' castle. The Garden, when I saw it, was simply packed with country folk, it being the Whitsuntide holidays. The crowd in front of the stage of the open-air theatre was so dense that it was almost impossible to catch even a glimpse of the music-hall entertainment which was going on all the afternoon.

Whilst I was taking photographs, a gentleman walked quickly up to me and began a long harangue in a very angry tone of voice, accompanied by scowls and many gestures of disapprobation. I listened attentively until he had finished, and then asked : 'Spraken ze English ?' Whereupon he turned on his heel and walked off as quickly as he had come, not to reappear again.

CHAPTER XXIII

ZOOLOGISCHER GARTEN, BRESLAU : DIRECTOR, HERR GRABOWSKY

ON March 9, 1863, Dr. Elwanger and Herr von Ruffer formed a private company with a view to the creation of a Zoological Garden in Breslau. A prospectus was issued to win sympathy and interest for the undertaking, and shares were allotted. The price of each share was fixed at £10, and directly the number of shares rose to 6,000 it was agreed that the work should be started. In September, 1863, the work was begun, a deserted meadow being changed into a park ; early in the spring of 1864 the buildings were commenced. Many valuable presents of trees and bushes made the task easier for the committee, whilst a quantity of rather premature presents of animals made it difficult, as there were no houses or attendants ready for them.

At the direction of the committee the local architect was sent on a tour of several Zoological Gardens, in order to look at their buildings and obtain hints as to the nature of the accommodation required for the different animals and birds.

In June, 1864, Dr. Franz Schlegel was appointed the Director. The first general meeting of the share-

holders took place on February 20, 1865. Twenty shareholders were chosen to act on the Board, only two of whom remain alive. In 1864 and 1865, besides a row of smaller buildings, the following were erected : a bear pit, a wolf house, a swine house, a deer enclosure, a pheasantry, a buffalo house, a camel house, an owl house, an eagle house, a small-cats' house, a pay-office, a restaurant, and a music-hall. The monkey house was begun in 1865 and finished in 1866. When all these houses and enclosures had been completed and filled with animals, the opening of the Garden by officials and heads of different guilds took place on July 10, 1865. The illuminations in the grounds were spoilt by a bad storm. The Garden had bad times, but to-day its financial position is satisfactory, its buildings are in good condition, and its collection has increased enormously.

The elephants bathe, weather permitting, at 6 p.m. The lions are fed at 4 p.m. Pony riding and goat-carriages are only allowed in summer.

In 1901 the income derived from ordinary entrance-tickets was £3,915. This was lower than in 1900, owing to the universal depression in all trades and professions. Consul Ernst Bauer, who had been a Director for twenty years, died during that year. Concerts were given every Sunday and Wednesday in the winter months, and in the summer months every Sunday, Wednesday, and Friday, besides special concerts during the holidays. Penny morning concerts were also given.

The stock in the Garden at the end of 1901 was : 541 animals, 937 birds, 116 reptiles ; total, 1,594 head.



MONKEY HOUSE, BRESLAU.

In 1900 the total head was 1,619. The following were born in the Garden in 1901: 346 animals of 35 species, including 3 lions, 2 leopards, 1 brown bear, 5 wolves, 2 kangaroos, 1 Shetland pony, 1 zebra, 1 llama, 1 camel, 2 nylgai antelopes, several deer, goats and sheep, some Angora cats, and a number of small rodents. Several of the above, however, died soon after birth.

Many silver pheasants, peacocks, storks, and other birds were hatched, and many animals were presented and bought. The loss of animals during 1901 was 5 per cent. of the total value of the stock, against 10 per cent. of the total stock in 1900. Of the more valuable animals there died during the course of the year: 1 lioness, from an old lung trouble; 1 pair of panthers, from tuberculosis of the lungs; 1 drill, from consumption; 1 old steinbock, from inflammation of the intestines; 3 beavers, from old age; 2 red-necked kangaroos, from consumption; 1 nylgai, from catarrh of the stomach; 1 white llama, from old age; 1 male ostrich, from peritonitis; 1 swan, from wounds received from the spurs of a goose.

On entering this Garden my camera, for the second time during my tour of the Continental Zoos, was wrested from me, in spite of my pleadings in the very best German I could muster.

Passing some pheasant pens, the lion house is first encountered, containing, amongst other animals, three baby lions and two baby Himalayan bears. A second house of carnivorous animals contained more lions, two caracals, some pumas, some small cats, and hyenas,

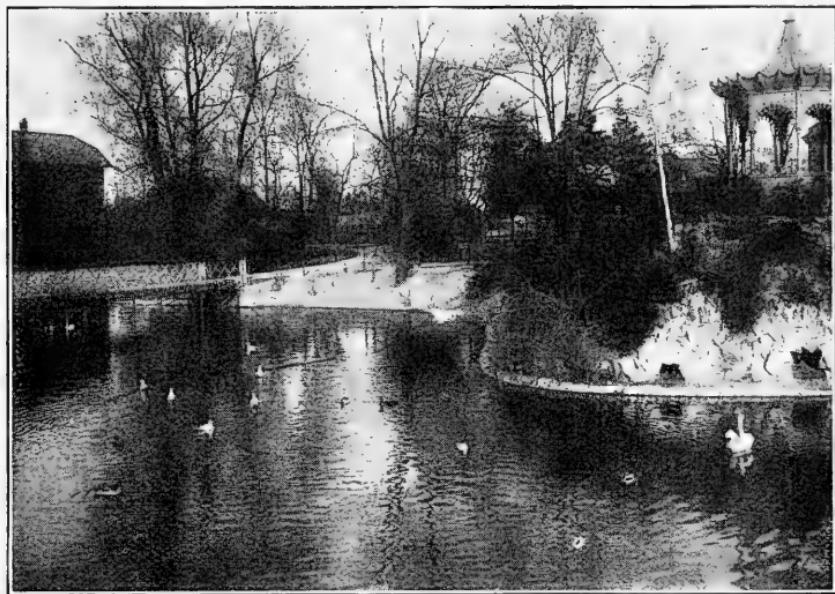
including a specimen of the brown hyæna, rarely seen in zoological collections.

A remarkably fine elephant house contained a large African elephant, two Indian elephants, two black-and-white tapirs from Sumatra (the first I had seen in captivity), and two hippopotami together in a huge tank. But the animal for which this Garden is justly famous is the huge black-faced ape, known as the gorilla from West Africa, the only known specimen in captivity in the world. Curiously enough, this priceless animal was purchased from England. What a pity it did not find its way into our London Zoo ! Since writing the above, Herr Carl Hagenbeck of Hamburg informs me that he is expecting a young gorilla, which has been caught for him in West Africa. The ape is housed in a large and lofty cage with glass front in the monkey house. I should say it was quite young, and not yet half grown. It was not particularly lively on the occasion of my visit, but spent its time in picking its nose and staring at the huge crowd.

There was an amusing chimpanzee in the next cage, and close by some large baboons. The exterior of this monkey house is very prettily built and decorated. The next house of importance is the antelope house, containing brindled gnus, water-buck, nylgai, zebras, camels, asses, and Shetland ponies. In the centre of the Garden, as usual, there was a band-stand surrounded by countless seats, not far from a restaurant. Here a good band played all the afternoon, and the crowd round it was large. There were the usual sheds for American buffaloes (I wish I had counted how many

of these animals I have now seen in captivity), yaks, and zebus.

There was a large collection of bears in a castle, and a great number of wild sheep and goat pens. In a little house I noticed a litter of six pretty little foxes. There were some large duck-ponds, and several deer sheds and paddocks. Here I noticed (May 20) a sambur deer and a Sumatran sambur (*Servus equinus*),



DUCK-POND, BRESLAU.

just out of the velvet—the first I have seen this year. There was a large bird-of-prey house, effectively backed with rockery, containing some remarkable birds, notably the bateleur eagle from Africa, the handsome Brazilian *Œnops urubitinga*, *Sarcorhamphus papa* from tropical South America, *Vultur occipitalis*, *Aquila nœvia*, *Buteo buteo*, *Grys indicus*, and many others. This fine aviary was given in 1898 by Robert Cuno.

Another really beautiful house was the tropical small-birds' house with glass roof, the centre of the hall being filled with plants, ferns, flowers, palms, and some lovely orchids. The cages contained many rare and gorgeously coloured birds from the tropics. *Spermestes mirabilis*, a little gem from Australia, took my fancy, and there were hundreds of brilliant paroquets and parrots.

Taken all round, this Garden has a remarkably fine collection of animals and birds, and should rank about sixth among the Gardens in Europe.

CHAPTER XXIV

ZOOLOGISCHER GARTEN, POSEN, FOUNDED IN 1881 :
DIRECTOR, HERR JÄCKEL

AFTER entering this Garden, I passed rows and rows of chairs and little tables in front of a large restaurant, but for a long time I was unable to find any animals. However, at length I saw a small gate, through which I passed, carefully refusing to look at a notice about photographs, lest I might be able to understand what I read. The first set of cages contained jackals and an amusing pair of Himalayan bears. The next house, a very old and dilapidated one, held black, brown, and polar bears, after which came the lion house, with large outdoor cages, containing a good collection. I had just succeeded in taking photographs of a few of the inmates, when a man appeared, and, by a good deal of talk and gesticulation made me to understand that photographing the animals was not allowed ; so for the third time I was obliged to close the camera shutters.

There was an aquarium in a dark rock-work dungeon, but the number of fish in the tanks with cracked glass fronts was small. This dungeon seemed to contain a very miscellaneous collection ; there was a stuffed ant-eater in a dark corner and some living mice in

glass cases. In another glass case was a stuffed monkey, from the fur of which a tiny little mouse was busily engaged in making its nest. There were several cases of stuffed fish, a child's perambulator, and an empty beer-bottle. That aquarium may be reckoned as one of the good old 'has beens.'

In front of a duck-pond was a large house containing an Indian elephant, which consumed bags of bread, paper and all, with trumpets of immense delight; there was a black buck antelope with a broken horn, an inyala, also with a broken horn, an Indian tapir, a cassowary, a rhea, a pair of zebras, some kangaroos and donkeys. Opposite were wild-swine sheds, deer sheds, with a very good collection, and buffalo sheds. Next to these was a really good seal tank. There was a bird-of-prey aviary, and a monkey house, containing, amongst other animals, a beautiful black-and-white lemur. There were llama and camel sheds, a parrot and tropical small-birds' aviary, and a burrowing-rodents' house. Some dog-kennels contained pointers, Esquimaux dogs, a Russian wolf-hound, foxes, and wolves. In an open-air pen was a sedate marabou stork, which would catch bread thrown to it from a distance of ten yards, never allowing a single piece to touch the ground.

This Garden, although not large, has a remarkably good collection of animals. It seems a pity that the comparatively harmless photographer is barred, as every photograph taken in the Garden is a free advertisement.

CHAPTER XXV

ZOOLOGISCHER GARTEN, KÖNIGSBERG : DIRECTOR,
HERR H. CLAASS.

ON March 23, 1897, the regular general meeting of the Zoological Society took place in Königsberg, during which a business report of the Society was presented. From the report brought before them by Dr. Braun I take the following extract :

The interest caused by the Arts and Crafts Exhibition of 1895 suggested the institution of a permanent zoological and pleasure garden in Königsberg. In the spring of 1896 the Garden was opened to the public ; the statutes were settled upon in 1895 at the first general meeting.

The interest of the public in the Garden from the beginning was very keen. Many presents were received of plants, animals, cages, buildings, land, and materials.

The Garden is fifty-three morgens in extent, and is connected by electric tramway with all parts of the city. It is planted with many beautiful trees, bushes, and plants, and there are several ponds. The chief entrance building is of wood. The concert-house contains seating accommodation for 2,000 people. In the great 'machine hall' is a large bicycle track, eight lawn-tennis courts, and great facilities are offered for children's rides and drives. Near the main restaurant is a Viennese restaurant. In the summer there are daily concerts in the '36-man-strong theatre-chapel,' and besides these on Wednesday and Sunday there are military band concerts.

All the animal houses are newly built and favourably situated.

In February, 1896, there were 21 kinds of animals. In May Herr Carl Hagenbeck brought the total up to 149. On September 31, 1896, there were 893 specimens of 262 species: of animals, 299 specimens of 87 species; of birds, 533 specimens of 155 species; of reptiles, 52 specimens of 17 species; of amphibia, 9 specimens of 2 species; of fish, 1 specimen.

In 1896, 3 lions were born, 1 hog deer, 1 kangaroo, 1 Russian wolf-hound, 1 rabbit, 1 guinea-pig, and several rats and mice, and some Aylesbury ducks were hatched.

Eleven and a quarter per cent. of the total value of animals was lost during 1896. The total value of these animals amounted to £1,980.

In 1897 the second financial year was about the same as the first year, and was considered successful; £11,995 was taken, and £9,952 was spent, leaving a balance in hand of £2,303.

In 1897, 5 lions, 3 panthers, 3 pumas, 1 wapiti, 1 hog deer and a sika deer, 1 Russian wolf-hound, 1 St. Bernard, several terriers, beavers, and a Shetland pony, were born in the Garden. Three young lions, 1 brown bear, and other animals were sold. A number of sea-lions were bought.

From February to March a Lapland Native Exhibition was held.

In July a Bird Exhibition was held.

A silver medal was obtained by the Society for its efforts in pheasant breeding.

In 1898 the income was £12,847, and the expenditure was £9,897. Three lions, 2 tigers, 3 brown bears, 2 agutis, 1 dwarf zebra, 1 Angora goat, 1 wapiti, and other animals were born in the Gardens.

In 1899 the income was £13,238, and the expenditure was £10,798. The Garden then contained 575 animals of 160 species; 827 birds of 249 species; 55 reptiles of 16 species; and 44 fish of 2 species.

The following were born in the Garden: 2 female lions, 1 kangaroo, 4 cattle, 1 antelope, 2 wapiti, 1 axis, 1 sika deer, besides numerous other animals and birds.

A great number of dogs of various breeds were born; 78 animals (worth £152), 295 birds (worth £104), and 151 reptiles (worth £5), were lost during the year.

In 1900 the income was £12,175, and the expenditure was £10,981.

In 1901 the income was £13,339, and the expenditure was £12,299.

In the Garden there were 440 animals of 139 species ; 981 birds of 264 species ; 98 reptiles of 19 species ; 26 fish of 2 species.

The following were born in the Garden : 2 lions, 1 panther, 1 zebra, 1 yak, 4 zebus, 3 asses, 1 llama, 1 guanaco, 2 red deer, 2 sika deer, 2 wapiti, 1 cross between an axis and a reindeer, 1 giant kangaroo, 6 goats.

The following died soon after birth : 1 tiger, 3 pumas, 2 brown bears, and others.

An enormous number of animals and birds were presented during



OSTRICH SHED, KÖNIGSBERG.

the year. The total worth of animals in the Garden in 1901 was £3,637.

This is a large rambling Garden, part of which is prettily situated in a wood with a deep valley in it, at the bottom of which runs a brook. It is difficult to find, being right outside the town. On entering and keeping to the left, a bird-of-prey aviary is the first

enclosure met with. After this one finds a number of wapiti and other deer, and then one comes to a large, flat, open space, upon which stand several large buildings. There are bear dens and bear dens, the latter predominating. There is an enormous concert-house, built in 1896, several aviaries, a monkey house, with outside cages, fitted with swings and rocking-horses, containing, besides the apes, some fine lemurs and a gigantic ant bear. There are kangaroo and ostrich sheds, yaks, zebus, and American bison enclosures, and an amusing rabbit-hutch.

Close by a racecourse is a huge white tower, from the top of which a view of the whole course can be obtained. In the lion house were a pair of very white lynxes from East Turkestan, which I do not remember having seen in captivity before. There was a black leopard with young ones (a decided novelty), and a puma with young, all born in the Garden.

At this point a man with a villainous-looking countenance appeared, wrested my camera from me, and locked it up in the lion house.

I found that the further north-east one goes in Europe the more one is looked upon with suspicion by the keepers, especially when they see one's pocket-book come out.

There was a pretty pair of cariboo with a calf, and close by them some wild-goat and sheep pens. There was a huge flying aviary (one of the best I have seen), with large trees and shrubs growing in it, and a brook running through it. It contained gulls, cranes, storks, and cormorants.

One of the prettiest houses in this Garden is that

devoted to the German native birds. Each cage has little trees in it, ivy grows round the wire-fronts, and there are hand-painted pictures of each bird beautifully done. The house is full of trees, plants, and evergreens.

When I got back to the lion house for my camera the keeper was nowhere to be seen, but, after searching nearly all over the Garden for him, he at length made his appearance, and returned me my camera.

This Garden has a really good collection, and is well worth a visit.

CHAPTER XXVI

ZOOLOGISCHER GARTEN, STUTTGART : DIRECTOR, HERR ADOLF NILL

THIS Zoological Garden owes its origin to Johannes Nill, a carpenter in the city, and a great lover of animals.

His collection at first consisted of indigenous animals, such as deer, roe, foxes, singing-birds, etc. Wild boars and chamois were afterwards added. A large circle of Nill's acquaintances paid regular visits to the collection, and in 1866 a restaurant was built and called the Deer Park Inn. With the proceeds of this restaurant a Zoological Garden was laid out, and a deer house, a monkey house, some bear pits, and duck-ponds were constructed. To these were afterwards added enclosures for chamois, wild boars, goats, ducks, birds of prey, and small birds. The Garden was opened on July 1, 1871. The entrance fee was fixed at three-pence, and a penny-halfpenny for children; yearly subscribers paid two florins for a family, and one florin for one person.

After the closing of the well-known Werner Zoological Garden in the centre of the town, more land was acquired in 1875, and several new buildings were erected, including a llama house and a gymnasium for children.

In 1883 the lion house was built.

In 1885 the large Entressicher Menagerie was bought and added to the collection, and military band concerts were instituted. The price of season tickets was now raised to eight marks.

In 1893 large additions were made to the Garden. A new elephant house, a bird-of-prey aviary, a small-



PELICANS, STUTTGART.

cats' house, the antelope house, and a large ornamental square were erected. Unhappily, it was not permitted to the owner and founder of the Garden to see the end of his work as a completed whole, as death claimed him in May, 1894.

Thanks to the great encouragement of the public and the strong interest manifested in it by the Royal

house and the civic magistracy, the Zoological Garden is at the present day one of the chief sights of the town and surrounding country.

This Garden is approached up a steep hill. It is not pretty, but contains some good animals. Passing through a large café, we come to the entrance-gate (fifty pfennig), and find on the left a large bird-of-prey aviary. This is followed by a pen containing a herd of American bison, one cow having a calf at her heels. In a large Oriental house are a fine Indian elephant, some pigmy cattle, and a tapir. Opposite is a monkey house, containing a pair of most amusing chimpanzees. There they sat at two school-desks, quietly picking their noses. Anthropoid apes are almost human ; they make such a business of doing nothing.

In another house was a pair of white-tailed gnus (how restless and timid these animals are !), a pair of black bucks, and a zebra. Then a deer enclosure follows. In a house devoted to the smaller cats are some good specimens, notably, several servals, caracals, and a beautifully marked ocelot, a genet from South Europe, and an ichneumon from South Africa.

According to the labels on the cages, one might imagine that there were thousands of animals in Cape Colony, but this is not so at the present day. South Africa means, probably, anywhere south of the Zambesi, which is a totally different thing. Opposite a large open space occupied by rows of seats was a big circular cage, containing Fräulein Clair Heliot's performing lions, and a magnificent lot of animals they are. I made the acquaintance of this charming lady, and she

told me a great number of interesting facts about her pets. To see the lady enter the cage in a smart print dress and a picture hat and kiss and caress each huge lion in turn is a wonderful sight. I have a great admiration for anyone who possesses such love of, and power over, the brute creation. So often one sees



BRINDLED GNU, STUTTGART.

lions skulk away in terror from the lion-tamer. Not one of Clair Heliot's lions was in the least afraid of her, showing plainly that what she had taught them was taught with the greatest kindness. It was a sight to see a parrot or a monkey come to this lady when she called it. All the animals in the Garden knew and loved her.

It is curious that we in England make so few pets of animals. We have, of course, cats, dogs, and horses, but we go little further. I do not mean to say that every lady should have her pet lion about her, but there are other pets quite as dear and quite as affectionate as the horse, dog, and cat.

Besides Clair Heliot's lions, there was a permanent lion house, containing a pair of lions, a pair of tigers, and a particularly fine jaguar.

There is a cool underground aquarium well worth the penny extra they charge for admission. The tanks have sea and fresh water pumped continuously into them by a gas engine. Here is to be seen a beautiful collection of fish: trout, lobsters, eels, carp, flat-fish, cray-fish, king-crabs, dog-fish; some beautiful sea-anemones, a large number of sea-horses (most fascinating to watch), tortoises, a salamander from Japan, and a tiny seal in a tank and pretty grotto. We next come to some crane pens and duck-ponds, chamois among some rocks, a number of ostriches, and the inevitable herd of Shetland ponies.

CHAPTER XXVII

ZOOLOGISCHER GARTEN, FRANKFORT-ON-MAIN :
DIRECTOR, D. SEITZ

THIS Garden was founded in 1858. In 1895 the income was £10,250, and in 1900, £12,850—an increase of 25 per cent. in five years. The vexatious custom of taking away one's camera is in vogue also here.

On entering the Garden, which has an extent of seventeen and a half acres, the visitor will be struck at once by the care taken of the roads, paths, lawns, and flower-beds. The parrot stands are first encountered, leading to an aviary containing a fine collection of peacocks and Argus pheasants. Passing the band-stand and a pond on our right, we come to a large lion house. This is quite one of the best constructed lion houses in Europe, and contains a young pair of black-maned lions from Somaliland, and a pair of Abyssinian lions, the male of which was given to Baron von Erlanger, the famous traveller, by the Negus Menelik during the former's last African expedition. The female was given by Ras Makonnen. There is also to be seen here a Siberian tiger. In summer this animal loses its thick coat, which comes off in large flakes.

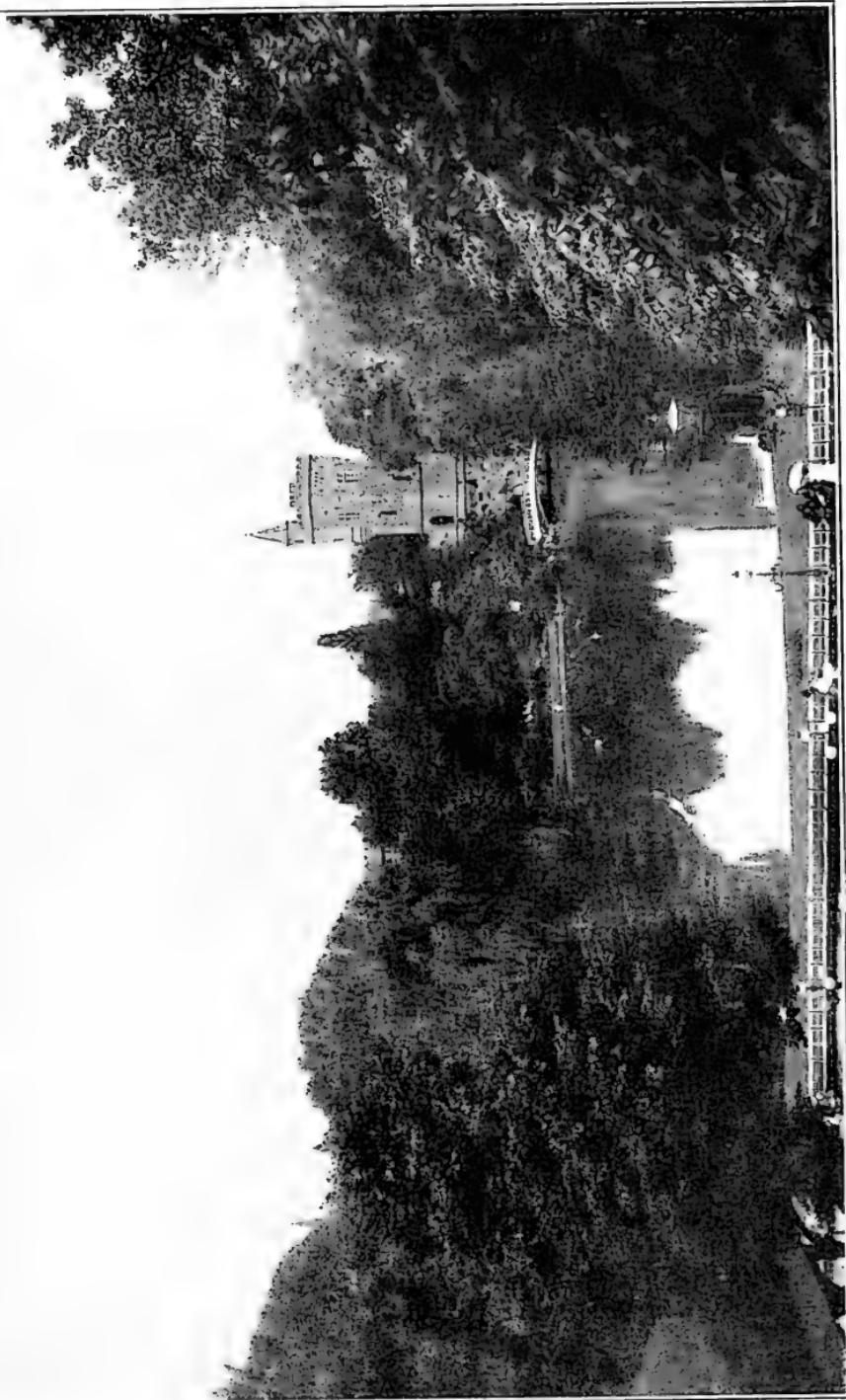
Close by is a house for smaller cats, and here I

noticed a very pretty little light-coloured fox, which has so far gone unnamed. It was presented by Baron von Erlanger. The collection of marsupials is very fine, no less than twenty kangaroos being bred there. The following are represented: the red kangaroo (*Macropus rufus*), the great gray kangaroo (*M. giganteus*), the black-tailed wallaby (*M. ualabatus*), the wallaroo (*M. robustus*), the red-necked kangaroo (*M. ruficollis*), *derliganus*, *conspicillaris*, *frenatus*, and *penicillatus*.

There are also three species of wombats (*Perameles*), including *Phascolomys wombat*, *P. latifrons*, *belidens*, *echidna*, etc. There is a duck-billed platypus, and a squirrel as large as a cat.

Opposite these houses is the entrance to a sea-water aquarium (six pfennig extra), situated in a large and dark underground vault, which contains crabs, king-crabs, lobsters, a beautiful show of sea-anemones, jelly-fish (which I do not remember having seen in tanks before), sterlet, perch, eels, a salamander, and a tiny seal. Many of the large species are fed with living fish, and it was interesting to watch them catching the small prey. From the top of a high tower over the aquarium, which forms with the duck lake below it one of the most picturesque spots in the Garden, a good view is obtained of the palatial concert-house across a large lake. In this old tower are owl cages, containing, amongst others, the beautiful snowy owl.

The monkey house is close by, containing a rich collection, as well as reptiles and a row of small rodents. An orang-outang came as a present from Sumatra, and is a fine specimen, extraordinarily clever,



TOWER AND LAKE, FRANKFORT-ON-MAIN.

and almost intellectual. Gigantic pythons are here seen, lolling on the warm sands or bathing in the water-tanks. There are also enormous lizards and iguanas. Next to this house are the hyænas, wolves, jackals, and ice foxes, the latter even in spring keeping their white coats. In 1890 half a dozen wolves were born in the Garden.

Passing wild-sheep and goat enclosures, we find in house No. 10 the German native birds on one side, prettily arranged in cages framed with tree-cork, and on the other side of the house are the ostriches and cassowaries, with outside cages. House No. 11 is an extraordinarily well-arranged structure of iron and glass, containing parrots and small tropical birds on one side, and on the other the wading-birds, with outside cages. The exotic-bird collection is contained in 120 small cages and many large cages, forming one of the richest collections in Germany. In 1901 there were exhibited in this house such varieties as the Oriental roller (*Eurystomus orientalis*), Leache's laughing kingfisher (*Dacelo Leachii*), and many others of equal value.

We now come to an unusually good collection of wild swine, including a pair of African wart hogs. Opposite these sheds are a number of extremely well-laid-out flower-beds; in fact, the whole Garden is rich in plants, flowers, and shady trees.

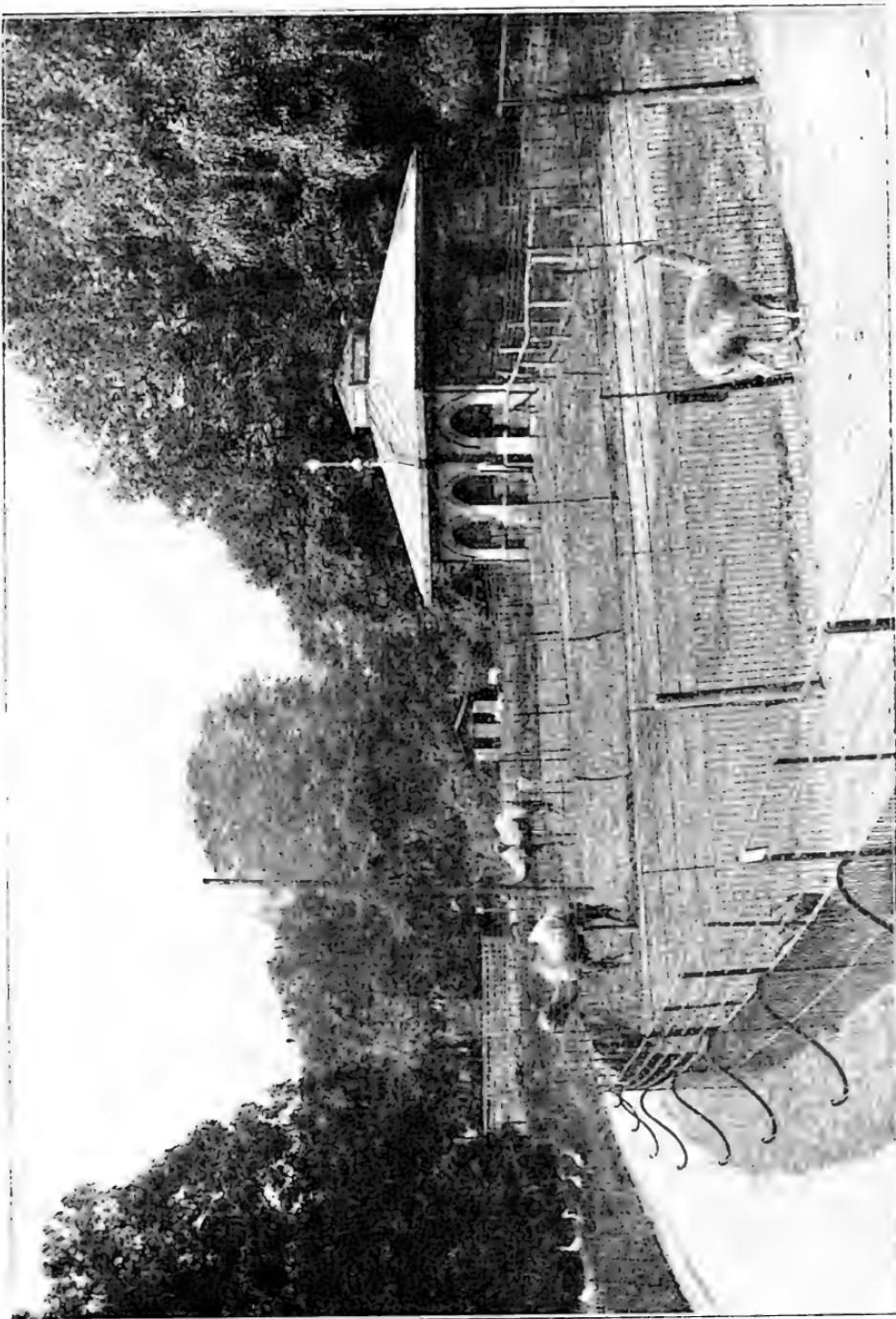
The elephant house, with large open-air enclosures, no longer contains 'Betsy,' the great female elephant, which has just died; whilst another male Indian elephant has been killed, as he was becoming dangerous. To-day only 'Fanny' (who came ten years ago), and a small African elephant, just acquired, are to be found.

There is a fine Indian rhinoceros, his attendant keeper on the occasion of my visit being busily engaged in cleaning his hide and searching for ticks, much to the delight of the great pachyderm. There was a pair of hippopotami in a large bath, both females, which were born in Antwerp. They were presented by M. Conrad. 'Binding' arrived when quite young, and soon developed into a great mass of flesh and fat; and whenever 'Elizabeth' opens her mouth wide, everybody falls backwards in astonishment.

In another enclosure are two American tapirs. We next come to a really imposing and lofty bird-of-prey aviary of very large proportions, and then to the bear castle, with ivy running all over it. In a neighbouring tank are some green cormorants, perched on little rocks. Close by is a large enclosure for storks, cranes, stilts, gulls, herons, and flamingoes.

The herons here, contrary to their usual habit, build their nests on the ground and rear young ones every year. These birds are allowed full liberty, for their wings are never cut, but they are, in spite of this, very punctual to meals. One went away with the winter migration, but came back at supper-time the following spring. Here is to be seen the Goliath heron (*Ardea goliath*), rarely seen in confinement.

We now come to the antelope house, which contains quite a large herd of black buck. I counted ten of these animals in one enclosure, including two young ones. There is an *Oryx leucoryx*, an *Oryx beisa*, a number of water-bucks, nylgai, and some brindled gnus, which have bred here several times. There is an anoa from the Celebes, born in the Garden, and a half-grown



CAMEL AND LLAMA PENS, FRANKFORT-ON-MAIN.

giraffe, for which the sum of 16,000 marks had to be paid when it was about two years old. It is a specimen of the Southern form ; 'South' Africa gives one a wrong impression as to its habitat. There are no giraffes now alive in 'South' Africa. The Kalihari Desert is the most southern limit of the giraffe in Africa to-day.

We now reach the deer sheds, containing wapiti, roe (many albinos), red, fallow, rein, axis, sika from Japan, and deer from the Moluccas. There are the inevitable herd of American bison, a fine collection of llamas and alpacas, some camels, yaks, buffaloes, zebus, asses, and Burchell's zebras, an ant-eater near some very old elms, some giant tortoises from the Galapagos, and the ever-present Shetland ponies.

The magnificent concert-house, which has been added to of late and redecorated, contains the largest rooms in the city of Frankfort. Here are given two concerts daily by the Garden's own band of thirty-five performers. In the summer two bands play. Ten special symphony concerts are given each year.

In September, 1901, three giraffes, forty ostriches, seven lions, five jaguars, black and ordinary leopards were exhibited, but the above have now nearly all been sold.

In 1892 the following animals were bred in the Garden : gnu, nylgai, water-buck, jaguar, wolves, guanacos, etc.

Every May or June the Garden exhibits for some days its collection of *Lepidoptera*, one of the richest butterfly collections on the Continent, containing, as it does, about 25,000 specimens, including 1,500 *Hesperiæ* and more than 2,000 *Geometræ*.

The number of big, shady trees, the ponds, the picturesque buildings, the neatly-laid-out walks, the large open lawns, and the beds of flowers, all help to make this Garden one of the prettiest in Europe. The view from the restaurant terrace of the lake and tower, surrounded by trees, is one of the most striking I can remember.

I visited other Zoological Gardens in Germany besides those described above. There is one at Augsberg, one at Karlsruhe, one at Mulhausen, and one at Nymphenburg; but as there is nothing very remarkable about them, and one or two possess no carnivorous animals, they may well be passed over in a work which is already far too long.

CHAPTER XXVIII

ZOOLOGICAL GARDEN, ST. PETERSBURG : DIRECTOR,
ANTUSCHEWITZ

THIS is a curious Garden in a curious city. When I say 'Garden,' I mean a collection of animals in cages, with a number of *cafés chantants* dotted about. After passing the entrance, there is a large café in front of one, in which a really good band plays. Just opposite is a huge theatre, partly open to the air, and surrounding it are other smaller theatres and cafés. On the left are some bears and a good collection of foxes and wolves. In another house, in which is a large tank, there are two fine hippopotami. In this house is the stuffed skin of a baby hippo which was born in the Garden, as well as some living tapirs and some curious-looking Russian dogs. The next house contains a pair of very handsome Burchell's zebras, some nylgai, brindled and white-tailed gnus, and some rare little dwarf antelopes.

Opposite this house are stork and crane pens. In an elephant house, built in 1892, are two large Indian elephants, and close by them are some duck-ponds, containing ducks, geese, flamingoes, storks, and pelicans. Next to these ponds we come to some large aviaries, the first containing birds of prey, including some large

condors, and the second pheasants and peacocks. Passing on, we reach the lion house, in which is a really good collection, and opposite to it are some wapiti and other deer sheds. There is the usual herd of American bison, which seem to be more common in Zoological Gardens than in their native haunts, and next to them some Indian water-buffaloes and four



AMERICAN BISON, ST. PETERSBURG.

enormous camels from Russian Turkestan. Rabbits, seals, ostriches, and rheas helped to form an extremely good collection. Although there was very little snow about (May 24), it was quite cold enough for a great-coat.

There was a great deal of painting and a great deal of rehearsing in the various theatres going on

during my visit. This is quite one of the ugliest 'Gardens' in Europe ; there is scarcely a tree or a blade of grass to be seen, and it is not worthy of the magnificent city it is placed in.

Entrance fee thirty-two kopecks, which equals about ninepence.

CHAPTER XXIX

ZOOLOGICAL GARDEN, MOSCOW : DIRECTORS, MESSRS.
BAUMWALDT AND HOLTZ

How nice it was to get away from the cold wet north and see the sun again at Moscow ! There was scarcely a cloud in the sky on the occasion of my first visit to the Zoological Garden at Moscow.

After entering, on payment of thirty-two kopecks, one is confronted by a large boating lake, with cages of small birds and animals on the right bank. But, as usual, let us keep to the left, and, passing some vertebræ and jaw-bones of a gigantic whale, the first house that will be encountered is the lion house, containing, amongst other things, a bay lynx of America (*Felis ruta*), and a serval (ever snarling), a magnificent pair of large snow leopards from Thibet, and a common leopard with three tiny babies. In another cage together are two hyænas, one dog, one wolf, and one bear. The next house contains bears, and there is a monkey house close by containing, amongst other things, a flying fox. In a paddock in the Garden, next to a Thibetan kiang, or wild ass, is a specimen of the newly discovered Prejevalsky's wild horse. This animal came out of the herd imported by Carl Hagenbeck, and from the same herd came the specimens of

the curious yellow-coloured horse now to be seen in our London Garden. Carl Hagenbeck informed me that these animals were caught in three different districts south of the Mongolian town of Kobdo, near the Altai Mountains. The horses travelled twenty days to Kobdo, and ninety-five days from Kobdo to the Siberian Railway, so that by the time they reached Europe they must have had about enough travelling.



MOOSE YARD, MOSCOW.

The foals are caught with slings on long sticks by the Mongols, a number of whom gallop down upon a large herd at a given signal. When caught they are fed by Mongol mares, which act as their foster-mothers.

There were signs of great activity going on in this Garden, houses of various sorts being in course of construction in every direction, including a good new set

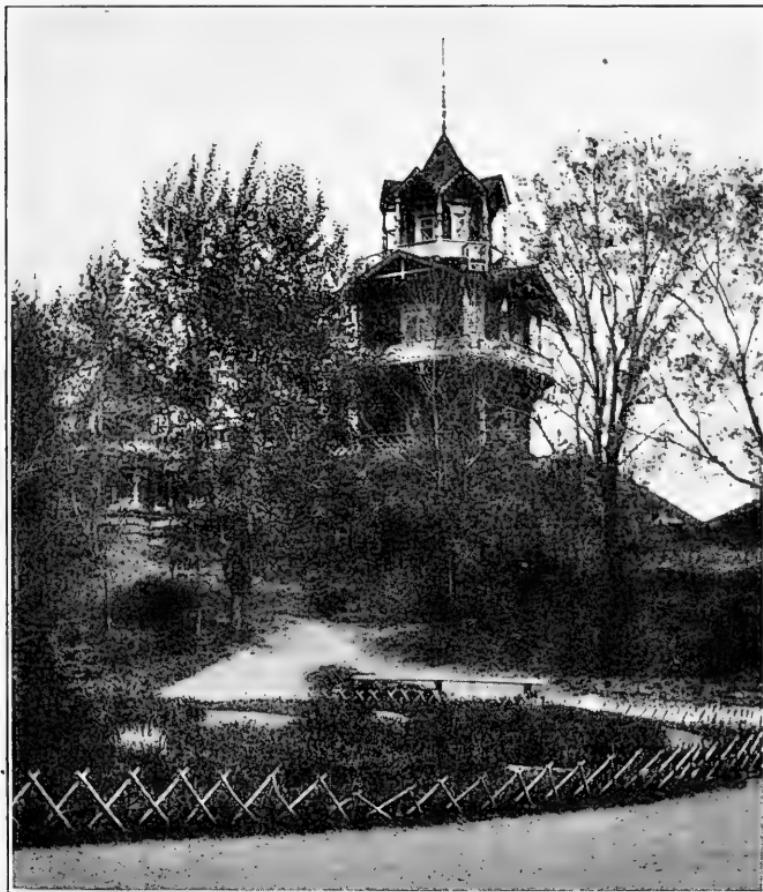
of bear cages for the fine collection of these animals, which have now to be housed separately in various parts of the Garden. Passing a moose yard, with a North American Indian wooden shed, we mount up to a comparatively new house on a bank, and find within two Indian tusker elephants, one of which is the largest Indian elephant in Europe. It is very old, and there is a great deal of white about the head and trunk, the latter being very short in comparison with the immense body. Ten years ago it grew very savage, and has since then killed two men.

In this Garden are to be seen specimens of the Russian bison (*Bos bonassus*) ; a herd, now reduced to 500, is protected by the Czar in Lithuania, Russia. When I asked an official if it was possible to get permission to shoot one, he said it would be cheaper to kill a man. 'It would cost you,' he added, 'three years' hard labour, with a fine of 800 roubles to kill a bison ; whereas, if you kill a man, it costs you only three years in Siberia, without any fine whatever.'

There were the usual concert-houses and restaurants. The Garden contains some quaintly built houses, and there are plenty of duck-ponds, trees, and grass to help to make it pretty.

As I had to await permission from the police (I was not 'wanted') to leave Russia, I was enabled to spend a second day in this curious and out-of-the-corner Garden. Here could be seen people out of every country in Europe, mixed up with natives of China, Thibet, Mongolia, Russian Turkestan, Russian Siberia, and other Asiatic races. I chanced upon the younger son of Herr Carl Hagenbeck, the great animal importer of Hamburg, who had just arrived with some American

racoons, some Shetland ponies, and other animals. I was delighted to meet someone who could speak English, and we lunched together in the Garden. Hagenbeck told me he was awaiting from Siberia a number of roe-deer, ibex, and other animals. He said



TOWER, MOSCOW.

that a gorilla, one of the rarest animals in captivity, and some chimpanzees were on their way to Hamburg from West Africa.

A fine band plays in the Garden in the afternoon, and altogether the place is quite worth a visit.

CHAPTER XXX

ZOOLOGICAL GARDEN, BUDA-PESTH : DIRECTOR, M. CARL SERAK

THIS Garden is one of the youngest in Europe. The first impulse was given to the foundation by the naturalists, Joseph Gerenday and August Rubinyi, who had returned from a visit to Vienna in 1856. In 1861 a committee was formed, shares were issued, and plans were prepared. Joseph Gerenday had brought together seventy kinds of animals, and it was found difficult to house them. In 1865 the Society was at last founded, and in 1866 the town sold the company a site, but made them pay a ground-rent for it.

The first President was Johann Xantus. On August 9, 1866, the Garden was solemnly opened to the public. Xantus resigned shortly after, and a Viennese zoologist, Fitzinger, was appointed; he in his turn resigned, and for a time the Garden did not prosper, perhaps owing partly to the many alterations in the management. Its position was so insecure that new and more sensible methods had to be thought out. Valuable aid was given in 1872 by Dr. Szabo, who had always been a zealous supporter of the Garden. He suggested that the company should be turned into a Society of Acclimatization, and that it should include

foreign domestic animals as well as cultivated plants. This idea found much approbation, and the Society took up Szabo's suggestion. M. Carl Serak was chosen Director of the Garden, and he has managed the affairs of the Garden to this day.

Until the year 1873 everything went downhill. To-day the Society possesses a capital of 180,000 gulden, and stands on a level with other similar institutions in Europe. The success of the Garden has been furthered by the help of the Archduke Joseph, for whose gracious support the Garden will always be greatly indebted. Mention should also be made of Andor Semsey, who gave the Society its beautiful aviary. Not only the Government, but also the town, help by continual subscriptions to further the interests of the Garden.

After a laborious railway journey from Moscow of three days and three nights, including fourteen hours of weary waiting at wayside stations where not a soul speaks any language but Russian, I arrived at length at Buda-Pesth.

The town possesses a shady wood of birch, horse-chestnut, and elm trees. After paying sixty filler for entrance, my camera was taken from me, which was all the more to be regretted, as it was such a beautiful day for taking photographs. The first house opposite the entrance is a very small, very stuffy, and very dark little monkey house, followed by a bird aviary, which was just the opposite—very large, very airy, and very light. Goat sheds follow, and then a good collection of deer, including wapiti (always well represented in

Continental Gardens), Borneo deer (*C. hippelaphus*), and others. Below a ruined castle, inhabited by ravens and owls, are two cages containing striped and other hyænas. These animals always have sore places on their heads, caused by rubbing against the bars of their cage. We now come to a beautiful pair of Somali ostriches in full feather, and close by a large duck-pond—which, by the way, contained very few ducks—there was a novel flying-aviary for gulls and peacocks—rather an odd assortment, I thought. A large fishing-net was stretched from the top of a huge pole in the centre of the cage to the iron railings. The lion house, which came next, had in it no less than six lions. There was a beautiful ant bear, with its curious snout and long thin tongue, in a cage by himself, and opposite was a large water-tank containing a hippopotamus, and on one side of him were four nylgai, and on the other two *leucoryx* antelopes and a zebra. Next came a great number of domestic-fowl pens, followed by a really fine collection of dogs from all parts of the world—Russian wolf-hounds, Irish setters, Chinese chows, pointers, pugs, fox-terriers, great danes, Newfoundland, etc. Passing a pair of Indian elephants, we come to goats, yaks with calves, camels, llamas, zebus, and the inevitable pair of American bisons. A number of bears, including a pretty couple of baby brown bears, brings a good collection to an end. During the heat of the day the hose was turned on to several animals, which seemed to enjoy it thoroughly, with the exception, oddly enough, of the polars, which became very angry and fought savagely with one another.

There were crowds of people, and a band played during the afternoon. Bread was sold for feeding the animals, and a good many people bought some; but I do not like to see the poor brutes teased and tantalized with it. I could not help laughing when I saw a great fat man holding a piece of bread on the end of his umbrella far out of reach, as he thought, of a large brown bear. Time after time the animal tried to reach the tempting morsel without success. But, with a last prodigious effort, it grabbed both bread and umbrella with its powerful claws, and tore the latter to shreds.

In the centre of the Garden a side-show was given, consisting of singing and dancing by some natives of Africa, who called themselves 'Atogos'; but I think from their absurdly silly dancing and quaint hair-dressing they were Dahomeyans.

CHAPTER XXXI

ZOOLOGICAL GARDEN, VIENNA: INSPECTOR, A. KRAUS

THIS Garden, which belongs to the Emperor of Austria, is situated in the grounds of the Emperor's summer residence at Schönbrunn, an environ of Vienna. No one is permitted to take photographs in it.

After passing through the palace-gates, turn to the right, and a short walk through beautifully kept gardens brings you to the Zoological Garden, in which there is a fine collection of animals and birds. The first cages are occupied by goats and sheep, forming a large representative collection. One black-and-white domestic-looking sheep, which I did not recognise, and which, unfortunately, had no name on its pen, was almost as high at the withers as a fallow buck. There was also a herd of the very curious, fat-tailed, white sheep with black heads from Somaliland. Keeping to the left, we encounter no less than three lion houses, all well filled. Next comes a monkey house, with large outside cages of novel construction. The antelope houses have open-air paddocks close by them, into which the animals are driven through railed-off passages.

There were nylgai, gnus, *Oryx beisa*, and the rarely-seen *Oryx addax*. One seldom sees the hartebeest

antelope in captivity. There are no fewer than eight different species of the genus *bubalis*, and they are amongst the most common of the antelopes of the plains. It is odd that they should be so seldom captured. When on the open plains of North-east Africa, I saw hundreds upon hundreds of 'Swayne's hartebeest,' but so far no specimen of this antelope has been seen alive in Europe. I never saw any very young calves, and my theory is that the cows, when about to give birth, retreat either into very thick bush or so far away from all caravan-tracks that they are seldom encountered. Another common African animal never seen in captivity is the African rhinoceros, which is much more plentiful than its cousin the Indian rhino, which, on the other hand, is frequently met with in captivity. It is, however, difficult to feed young rhinos. A baby one requires every day the milk of at least fourteen goats in full milk. A good few are caught, but seldom reach the coast alive, owing to underfeeding. You cannot overfeed an elephant or rhinoceros, and great cruelty is inflicted in some Gardens on the Continent by underfeeding these large pachyderms, some of the elephants being wretchedly thin and emaciated. In one case an enormous Indian elephant was receiving four pounds of wheat-cake only a day. No wonder he had turned into the savage brute he was.

But to return to the Vienna Garden. Opposite to a duck-pond were some beautifully built aviaries; in fact, all the houses in this Garden are good. Crane and ostrich pens follow, and then more aviaries for smaller birds of great number and variety.

The Garden is arranged in a circle round a central parrot-house. The visitor will be much struck by a particularly beautiful aviary for wading-birds, well arranged and well devised. There was plenty of grass, with tiny little houses dotted about, little trees to shelter under, and little rivulets to wade about in. The birds in it really looked happy, and I could have stood and watched them working and playing in this quaint spot for an hour. In a large and clean-looking house were three beautiful giraffes of the southern form, now so rare in collections. These animals had a spacious outside paddock. Close by were two Indian elephants in outside enclosures, and a young African tusker. The collection of bears was remarkably complete. It was amusing to watch the brown bears in their bath. In most Gardens the grizzlies and others are not provided with bathing-tanks, but are housed in pits or cages with drinking-water troughs only. This is somewhat unkind, for brown bears, and black ones, too, love the water as much as polars do; and on a hot day, if they have a tank, they will be found in it more often than not.

Although this Garden is not large, it possesses a collection very complete in many species of animals, which are housed in the best-built and altogether the cleanest and best kept houses in any Zoological Garden in Europe. The animals, as a natural consequence, look well and happy, and many are bred in the Garden.

CHAPTER XXXII

ZOOLOGICAL GARDEN, BASLE : DIRECTOR, DR. HAGMAN

IN October, 1870, when the Basle Ornithological Society was founded, the institution of a Zoological Garden was taken into consideration. In January, 1873, an initiatory committee was called together to found one. The call quickly found numerous friends. On February 20, 1873, a Society was formed for the purpose, among others, of founding a Zoological Garden. In May of the same year the work was taken in hand. The first animals' house, the restaurant, and the Director's dwelling were built by local architects, and grounds were laid out. On July 3, 1874, the opening of the Garden took place. Like all similar institutions, in the first year of its existence the Garden had to contend with financial difficulties, and in 1876 the liberality of the whole of the inhabitants of the town was required to keep it going. All the many patrons and friends who from that time gave the Garden their generous support earned the warmest gratitude.

The site of the Garden was the property of the public infirmary, and it was leased to the Society until 1891, when it was acquired by the State. By a grant made on September 5, 1891, this ground

was given as a present to the Company for its sole use.

Owing to its position, situated as it is in a dense forest of fir, elm, and birch trees, this Garden is quite one of the prettiest in Europe. The houses are built in the picturesque Swiss-cottage style, and through

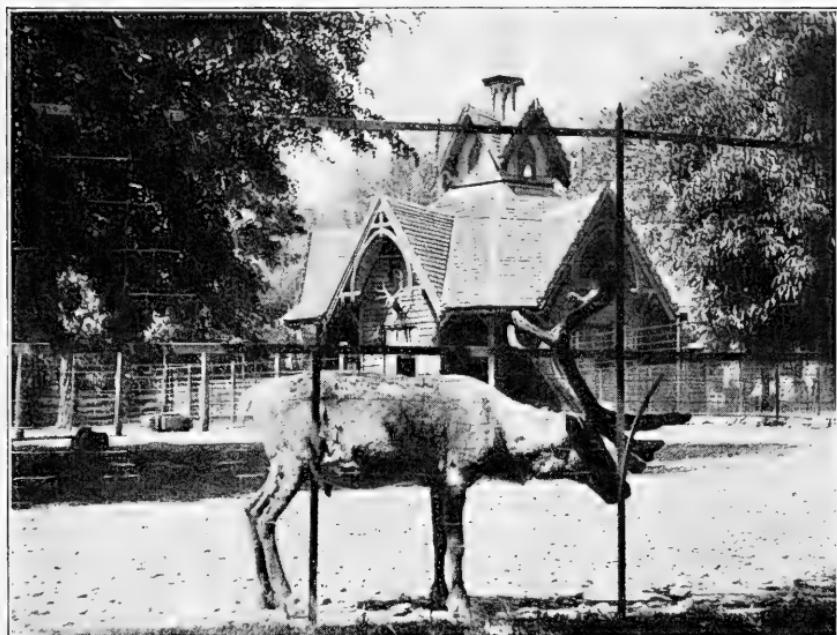


AVIARY, BASLE.

the Garden run little rivulets and waterfalls. The collection of animals, although not large, is decidedly good.

Turning to the left after passing the entrance-gate, we wend our way through a shady wood, in which are enclosures for storks, herons, and ducks. There are some pretty houses for deer, notably one with an

outside paddock, containing a herd of caribou of all ages. In another pen was a kangaroo with a baby in its pouch, the first I have seen in captivity outside our London Garden. The lion house is small, and contains a pair of lions, three pumas, and some other smaller animals. The elephant house is built in Moorish style, and contains a large Indian elephant, a



CARIBOU, BASLE.

tapir, and some Burchell's zebras. There are a quantity of bird aviaries, moose and zebra yards, wild-swine sheds, and a monkey house containing the seldom seen orang from Borneo. On the occasion of my visit, it being a very hot day, this ape was allowed his liberty, and sat perched high up in a tree under the watchful eye of his keeper.

There was a large paddock containing some Shetland ponies, and several other minor houses and aviaries, including a pretty pigeon-house ; but the visitor will be most struck by the pretty, shady walks, the trees and waterfalls, and by the abundance of grass and flowers. The animals all looked sleek and fit, well fed and cared for.

CHAPTER XXXIII

GARDENS OF THE ZOOLOGICAL SOCIETY, LONDON

THIS Zoological Society was formed in 1826, and Sir Stamford Raffles was elected President, Mr. Joseph Sabine Treasurer, and Mr. Nicholas Vigors Secretary. The sum of £5,000 was appropriated for the Gardens in Regent's Park, the plans of which, prepared by Decimus Burton, were approved. In 1828 the Gardens and a Museum were opened to the public on payment.

The most important event of the year 1829 was the grant on March 27 of a charter to the Society by His Majesty King George IV. The Marquess of Lansdowne, Mr. Joseph Sabine, and Mr. Nicholas Vigors were named in it as the first President, Treasurer, and Secretary respectively of the incorporated Society. More land was acquired north of the Garden in Regent's Park, and a tunnel was built connecting the two gardens. The number of Fellows that year was 1,528, and 189,913 people visited the Gardens.

The principal works executed in 1830 were the laying out of the North Garden and the erection there of houses and sheds for deer, antelopes, zebras, ostriches, kangaroos, and swine. In the South Garden a pit with a pond was provided for the polar bear, and a den and pond were made for seals.

His Majesty King William IV. signified his pleasure to become the Patron of the Society, and presented to it all the animals belonging to the royal menagerie in Windsor Park. This collection included fourteen wapiti, seven zebus, two mountain zebras, two Burchell's zebras, and thirteen kangaroos, besides other animals and a valuable collection of birds.

In 1831 the King presented to the Society the collection of animals in the Tower. The armadillos bred in the Gardens. An elephant paddock and pond were erected.

In 1833 a parrot house was erected.

In 1834 an additional space of ten acres of ground along the south-western verge of the South Garden was acquired. Examples of twelve species of mammals and twenty-six species of birds were exhibited for the first time. Of the former the most important was an Indian rhinoceros, for which the sum of £1,050 was paid.

In 1835 a house was built for elephants and rhinoceros in the North Garden, near the spot where the present elephant house now stands. His Majesty the King presented to the Society a fine young Indian elephant.

On May 24, 1836, four giraffes (three males and a female) arrived at the Gardens in charge of M. Thibaut, who had obtained them for the Society in Kordofan. They were the origin of the famous herd which died out in 1881. Of the seventeen giraffes of this herd subsequently born in the Gardens, one was presented to the Dublin Society in 1844, five were sold at prices ranging from £150 to £450, and eleven died in the Gardens.

In 1836 a giraffe house was erected.

In 1837 Her Majesty Queen Victoria signified her pleasure to become Patroness of the Society. An orang-outang was purchased for £100, and a cage was put up for it.

On June 19, 1839, a young male giraffe was born, the first recorded instance of this species breeding in captivity, but it died nine days after.

On May 27, 1841, a young male giraffe was born, the first ever reared in captivity.

In 1843 a new carnivora terrace was completed. Jenny, the orang, died.

In 1844 a polar-bears' den and bath were erected.

In 1846 the largest of the giraffes died, having been upwards of eleven years in confinement.

In 1850 a young hippopotamus was presented to the Society by Abbas Pasha.

In 1851, by bequest from the late President, the Earl of Derby, the Society acquired the herd of elands (two males and three females) which was the origin of the Society's stock of this important animal.

In 1852 His Royal Highness Prince Albert was President. The drainage of the Gardens, begun in 1851, was completed. A python house, a chimpanzee house, and an aquatic vivarium were made. A Red River hog was obtained.

In 1854 the hippopotamus house, with a large bath and massive iron railings, was completed. The most important addition was the female hippopotamus, Adhela, presented by the Pasha of Egypt. The Society now possessed a pair of these huge pachyderms. These animals bred in 1872, and the female is still living (1902) in the Gardens.

In 1857 a collection of Himalayan pheasants arrived.

In 1859 Mr. (now Dr.) Philip Lutley Sclater, M.A., was elected secretary of the Society, and he still fills that onerous post with distinction to-day.

In 1861 the deer sheds in the North Garden were rebuilt, and the larger antelopes were removed to the new house in the South Garden. Two eland fawns were born, making a total of twenty since the bequest in 1851. On December 14 the Prince Consort, President of the Society, died at Windsor.

In 1862 Sir George Clark was elected President of the Society. A pheasantry and kangaroo sheds were built.

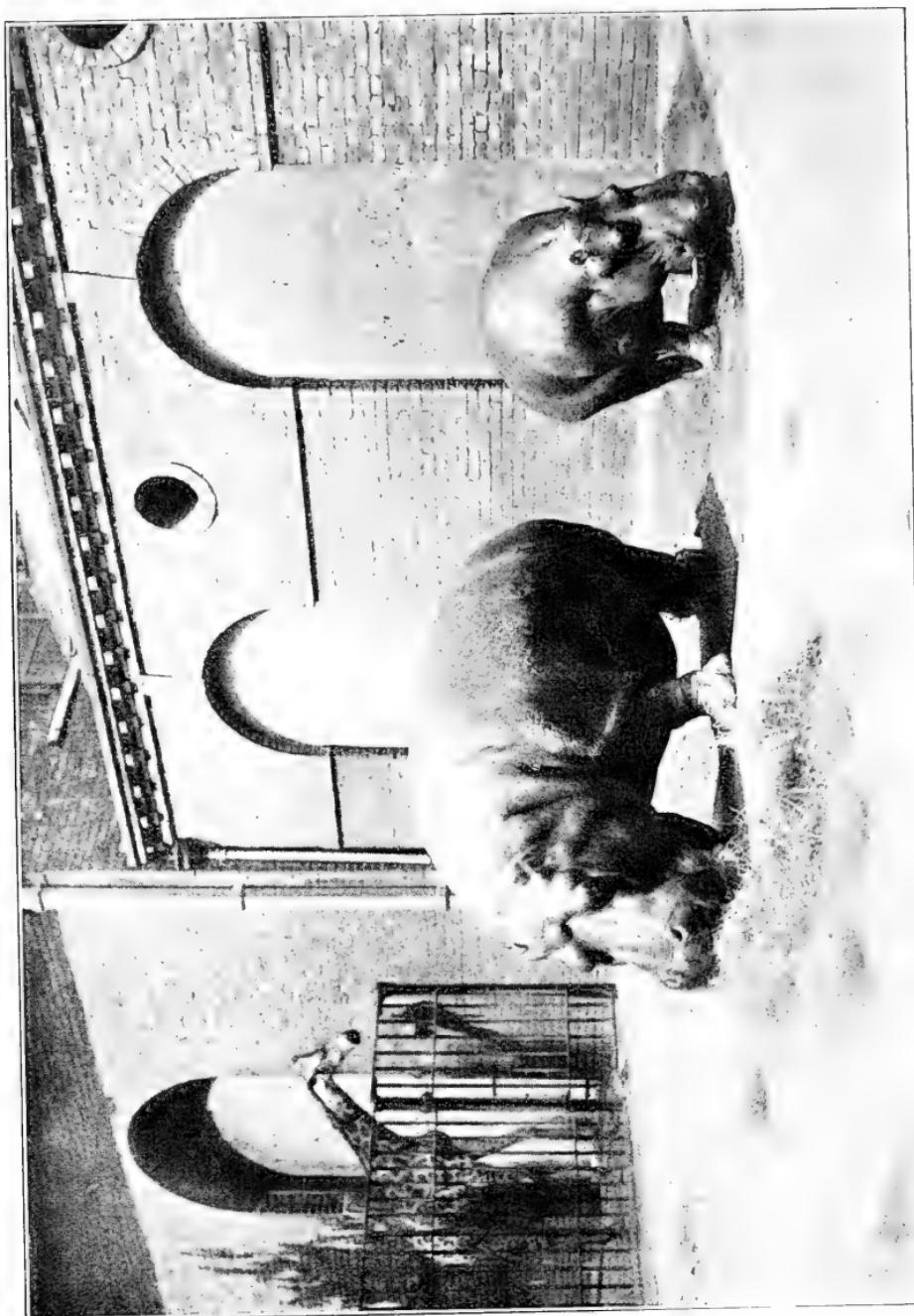
In 1863 cattle-sheds and a new monkey house were constructed.

In June, 1865, the first African elephant ever seen alive in England was received (in exchange for an Indian rhinoceros) from the *Jardin des Plantes*, Paris. This was the famous *Jumbo*, and in September a female of the same species (*Alice*) was purchased.

In 1866 a fire broke out in the giraffe house, which suffocated a female giraffe and her fawn. In the winter of 1866 a heavy snowstorm destroyed the covering of the pheasantry. The birds (many of which were worth £50 each) escaped into the park, but were mostly recovered.

In 1867 a young male walrus, brought to Dundee from Davis Straits by a steam whaler, was purchased, but did not live long.

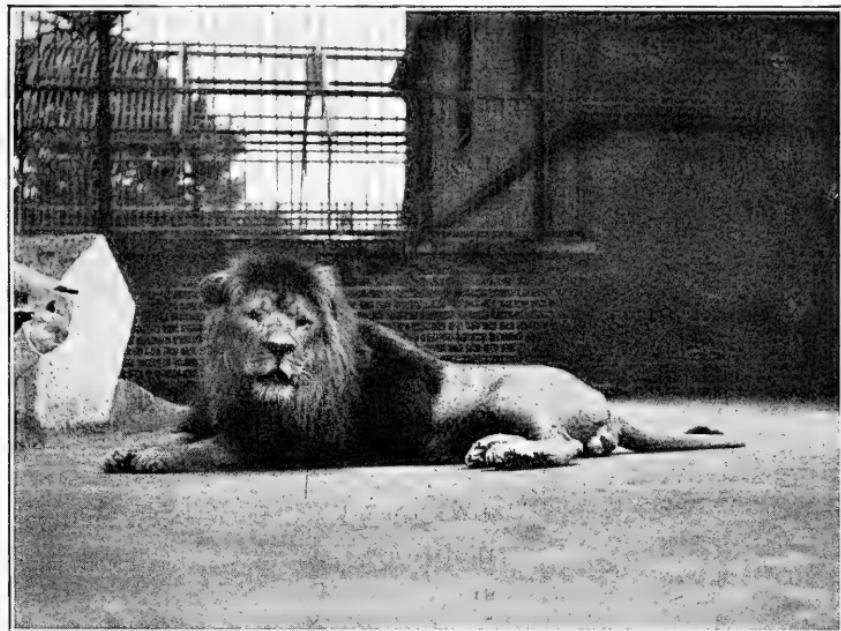
The list of donors in 1868 was long, and was headed by the Prince of Wales and the Duke of Edinburgh. An African two-horned rhinoceros, captured in Upper



HIPPOPOTAMI, LONDON.

Nubia, was purchased from Herr Carl Hagenbeck, of Hamburg. This was believed to be the first specimen of an African rhinoceros received alive in Europe since the days of the Romans. Lecomte returned from the Falkland Islands with a few animals and birds, upwards of eighty specimens having died on the voyage.

In 1869 the new elephant house was completed, and contained two African elephants, two Indian elephants,



LION, LONDON.

two Indian rhinoceroses, one African rhinoceros, one American tapir, the first and most complete series of the larger order of pachyderms ever brought together in Europe.

In 1871 a hippopotamus was born in the Gardens, but lived only two days.

In 1872 a bridge was constructed over the Regent's

Park Canal, connecting the new grounds on its north bank with the southern gardens. Two hippopotami were born, one of which, however, died; the other, reared by its dam, is still alive in the Gardens.

On October 2, 1874, an explosion took place in a boat loaded with gunpowder on the canal near the Gardens, causing great damage to some of the aviaries and other buildings.

In February, 1876, the new lion house was finished, and the animals transferred to it without accident. The new building was 228 feet long, and contained fourteen dens, each of which could accommodate a pair of animals. To each den there were two inside compartments or sleeping dens. At the back of the building were day-rooms and sleeping-rooms for the keepers. The great event of the year was the arrival and deposit of the Prince of Wales's collection from India, in charge of Mr. Clarence Bartlett, the assistant superintendent. This collection of sixty-five animals and eighty-six birds included, amongst others, five tigers, seven leopards, two bears, four Indian elephants, eight Indian antelopes, two zebus, seven deer, pigeons, partridges, francolins, pheasants, and ostriches. This great attraction raised the income of the Society in 1876 to £34,955, the admissions to the Gardens being 915,764.

In 1877 the large summer cages outside the lion house were finished and opened. The animals were able to take air and exercise in them, and the visitors had much greater facilities for seeing them.

In 1878 a young male hippopotamus was purchased for £800.

In 1881 the last of the giraffes bred in the Gardens died.

In 1882 the gayal bred (the first recorded instance in Europe). The tapirs bred for the first time in the Gardens. This year, 'Jumbo,' the great African elephant, was sold to Mr. Barnum, because it was considered unsafe to keep him any longer. The number of visitors was abnormally increased by the excitement caused by the Jumbo mania, and rose to the large number of 849,776, the second highest on record, having been only surpassed in 1876 (915,764), when the Prince of Wales's Indian collection was on view.

In 1883 the famous chimpanzee, 'Sally,' was purchased.

In 1887 the great aviary for flying-birds was opened, and, although the birds were not put in till June, pairs of two species of ibis nested in some trees and reared their young.

In 1889 Mr. Benjamin Misselbrook, who had filled the office of head-keeper for twenty-one years, retired after more than sixty years' service in the employ of the Society. He died in 1893.

In 1892 the male giraffe, acquired in 1879, died, the last survivor of the old stock. The Gardens were now, for the first time since the arrival of the original stock in 1836, without a representative of this animal. During that period thirty specimens had been exhibited, of which seventeen had been born in the Gardens and thirteen purchased.

The total number of animals in the Gardens on December 31, 1892, was 2,413, showing an increase of 181 over the corresponding period of the previous year.

In 1894 the white-tailed gnu bred for the first time, and a polar bear died after living in the Gardens for about twenty-three years.

In 1895 the new scheme for the drainage of the Society's grounds, planned in 1894, was brought to a satisfactory conclusion. The first example of the Southern form of giraffe was exhibited. Other important additions were a pair of brindled gnus and a pair of sable antelopes. Seth Sutton, after nearly forty years' service as keeper, retired on a pension.

In 1896 'Jung Pershad,' the Indian elephant deposited by the Prince of Wales in 1876, died.

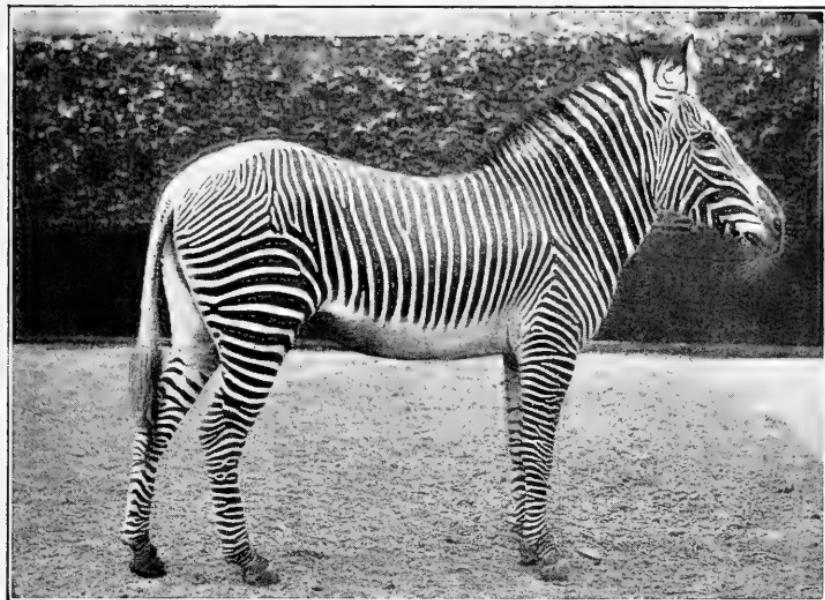
In 1897 the new ostrich and crane houses were completed at a total cost of £3,383; the new tortoise house adjoining the reptile house was also finished at a cost of £464. A giraffe, sent as a present to Queen Victoria by the Chief Bathoen of Bechuanaland, died almost as soon as it had been received at the Gardens.

In 1899 the new zebra house was finished at a cost of about £1,100. The Emperor Menelik of Abyssinia presented Queen Victoria with a pair of Grévy's zebras, which were deposited in this house. Besides these fine animals, the series of equides in the Gardens then comprised one African wild ass, one Somali wild ass, two onagers, one kiang, six Burchell's zebras, two mountain zebras.

In 1900 the brindled gnu bred, the first instance recorded in the Gardens. The Society's income amounted to £28,772, the number of Fellows was 3,250, and the admissions to the Gardens were 697,178.

In 1901 certain persons raised charges against the Society, complaining of the inadequate and unwholesome housing of some of the animals in the Gardens. They endeavoured to advertise their grievances in the cheap newspapers ; but the charges were ably met and unanimously condemned at a meeting of the Society, the Duke of Bedford (President) being in the chair.

In 1902 the young male giraffe (Southern form) died.



GRÉVY'S ZEBRA, LONDON.

The following animals were deposited by His Majesty the King, who received them as a Coronation gift from the Emperor Menelik of Abyssinia : five lion cubs (one male and four females) and two Grévy's zebras (females). Colonel Mahon presented a young male and a female giraffe of the Northern form, the first imported from Kordofan to this country for nearly thirty years.

Admission : adults, one shilling ; children, sixpence.
Secretary : Dr. P. L. Sclater.
Superintendent : Mr. Clarence Bartlett.

These Gardens are so well known to us that only a short description of a walk round will be necessary. They occupy at the present time an area of about thirty-one acres in the Regent's Park. The Gardens are divided by the Inner Circle and the Regent's Canal into three portions, known as the South Garden, the Middle Garden, and the North Garden.

Entering by the main entrance and turning as usual *to the left*, we reach the eastern aviary and the northern pond. Passing some llama pens and turning again to the left, a tunnel leads to some of the most important houses in the Gardens. After the parrot house, containing a very rich collection, we find the elephant house, which contains some remarkable animals—Indian and African elephants, Sumatran rhinos and Indian rhinos. This house has large open-air paddocks with water-tanks. 'Jingo,' the big African elephant, has been in the Gardens since 1882. We now come to Houses Nos. 60 and 61, containing the hippopotami and giraffes respectively. At the present time (July, 1902) there are two hippopotami, one giraffe of the Southern form, acquired in 1895, and two giraffes of the Northern form, just added.

We next come to the wild asses and zebras, which form a series having no rival in Europe. Here are to be seen specimens of all the four known zebras—Burchell's, Grévy's, Grant's, and the mountain zebra—besides the onager, the kiang, the Egyptian wild ass.

and the Somali wild ass, the last with legs striped like those of a zebra.

Passing the moose yard and retracing our steps, we come to the canal bridge, and after crossing it we are confronted with the northern aviary, pheasantries, and the insect house, in the last of which is to be seen (and felt) an electric eel, which kills or stuns with an electric shock the tiny fish thrown into its tank before it eats them. There are also some amusing talking-birds in this house.

Passing over the bridge again, we come on the left to the small-cats' house and the kangaroo sheds. Australians saw here for the first time kangaroos with young ones in their pouches, which shows how well they are treated here.

Again passing through the tunnel, we come to the band-stand and the platform from which children mount the elephant. These elephant and camel rides are extremely popular forms of amusement in the Gardens, as may be judged from the money receipts: in 1900 no less than £624 13s. 11d. was taken. Close by is to be found a beautiful specimen of the snow leopard, captured in Thibet by my friend, Captain H. I. Nicholl, and presented by him to the Society. After lunch in House No. 38 (the refreshment-room), we find on the left the vultures' aviary, and, crossing a lawn, we come to the fish house, the three-island pond, and the large central lawn, the latter a pretty sight on a fine Sunday afternoon, when covered with fashionably-dressed visitors.

Passing the wapiti and deer and cattle sheds, we reach the reptile house. Here the experiments of Sir

Joseph Fayerer demonstrated the venomous character of the heloderm lizard. In this house have been exhibited the largest pythons ever seen. Of the first living specimens of the Chinese alligator sent to Europe many years ago, one still survives, and the giant tortoises deposited by that great naturalist, the Hon. Walter Rothschild, could not be matched in the Galapagos or Aldabra.

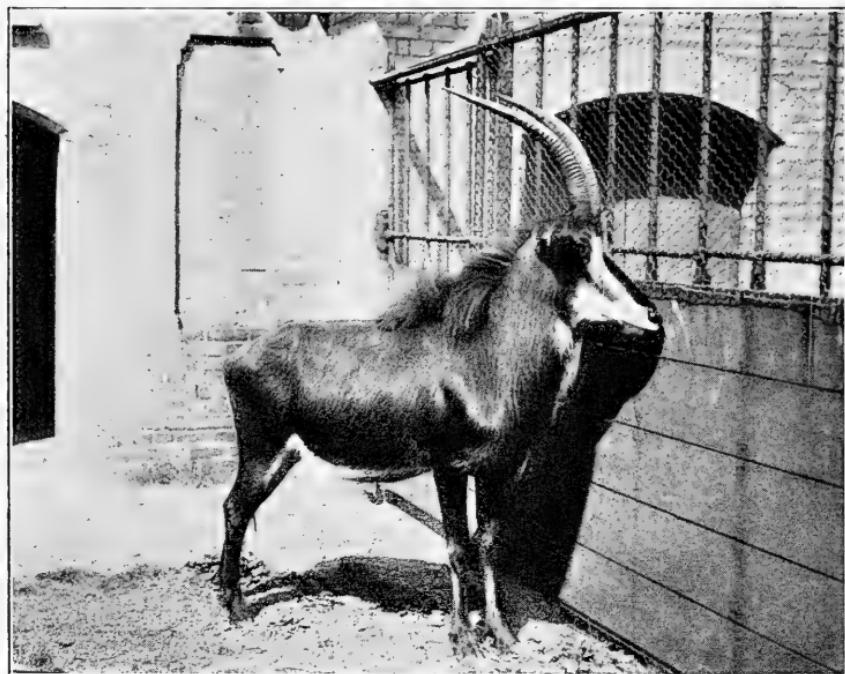
We now come to the lion house, which cost, with its outside cages, upwards of £11,000. There is always a good collection of the big cats to be seen, but they do not breed well here.

Just opposite is the splendid collection of antelopes, in my opinion the most valuable animals in the Gardens. Not such a fine representative lot can be seen elsewhere in Europe. Many breed here, and the gnus and elands take turns at grazing on the large grass paddock attached to the house. In the loose-boxes will be noticed sable, harnessed antelopes, the nylgais (remarkably tame), common water-buck, *Oryx leucoryx*, and an *Oryx beisa*, captured and presented by my friend and African-travel companion, Mr. J. Bennett Stanford. We now come to the sea-lion pond and those quaint-looking birds the penguins, which stalk about for all the world like wise little old men and women. Passing more duck-ponds, we reach the crane and ostrich pens. Mr. Walter Rothschild's monograph on the cassowaries was in great measure founded on examples deposited by him in this house. Here also are seen the rheas, the wingless kiwi, and the magnificent Manchurian cranes.

The monkey house comes next, containing a fine

collection, and opposite is a new house, costing £4,000, for the reception of the anthropoid apes.

Passing the western aviary, we come to the bears' and hyænas' dens, always well filled. The camel house and clock-tower come next, and then a large aviary containing storks, herons, gulls, etc., many of which



SABLE ANTELOPE, LONDON.

build and rear their young. The pelican enclosure brings one to the main entrance again.

In this large Garden there are no less than sixty houses, and in the above account of a walk round many small houses and enclosures have been passed over, but not forgotten. The number of visitors on a fine Bank Holiday is 29,000, or about half the visitors to the Berlin Garden on a fine Sunday evening. The

cause of this is that we close our Gardens at an hour when those on the Continent make most of their money. We also give no concerts and have no concert-house, although a military band plays from 4 to 6 p.m. on Saturdays throughout the summer.



STRIPED HYÆNA, LONDON.

To give some idea of the provisions required by the 2,865 or so animals, birds, and reptiles in the Gardens, it may be mentioned that in 1901 there were consumed, besides many other items, 153 loads of clover, 238 loads of straw, 144 loads of hay, 185 quarters of oats,

34 quarters of barley, 39 quarters of wheat, 197 quarters of bran, 24 quarters of canary seed, 48 cwt. rice, 60 cwt. oil-cake, 6,262 quarterns bread, 5,086 quarts fresh milk, 303 cwt. of biscuit, 33,300 eggs, 341 horses (weighing 104 tons), 252 goats, 2,178 lb. flounders, 29,120 lb. whiting, 9,530 fowl heads, 6,030 bunches of greens, 1,306 dozen bananas, 36 cwt. monkey-nuts, 342 dozen lettuces.

In Mr. Clarence Bartlett the Zoological Society is lucky in possessing a thoroughly practical and clever man as superintendent, and in Dr. Philip Lutley Sclater, M.A., Ph.D., F.R.S., etc., the Society possesses as Secretary one of the most energetic, learned, and distinguished of zoologists in Europe. No wonder, then, that with such men at its head, and under the Presidency of His Grace the Duke of Bedford, this Garden has remained, and will remain, one of the best managed, the most healthy, and one of the richest in Europe.

CHAPTER XXXIV

THE GARDENS OF THE BRISTOL, BATH, AND WEST OF ENGLAND ZOOLOGICAL SOCIETY, CLIFTON

THE foundation of Zoological Gardens for Clifton and Bristol was first laid by the establishment of 'the Bristol and West of England Zoological Society' in 1835, when the twelve acres of land now laid out were purchased. The situation of this ground, better known nowadays as 'the Clifton Zoo,' lies at a high level north of Bristol. At the north entrance, out-stretched as far as the eye can reach, extend the Clifton and Durdham Downs. Facing the south entrance is Clifton College, whilst in close proximity is the famous suspension bridge spanning the Avon Gorge.

The Clifton Zoological Gardens have long since acquired a reputation as one of the most favourable localities in the country for the breeding and rearing of wild animals in captivity. This is a distinct advantage no one will dispute. Moreover, although so popularly known as Zoological Gardens, they are, as was originally intended, combined Zoological and Botanical Gardens. Nor has the latter half of the scheme been neglected; for the Gardens, occupying a remarkably sheltered and retired position, are taste-

fully laid out with extensive lawns, rare exotic trees, and beautiful flower-beds, which from early spring to late autumn present a veritable kaleidoscope of varied blooms. In the centre is the ornamental lake, which, with its islands and water-fowl, lend additional variety to the scene; whilst around the grounds wind shaded paths, bordered by shrubbery and rockwork, flowers and ferns, and judiciously studded with rustic seats. In winter the ring of a thousand pairs of skates may be heard on the lake. For the amusement and recreation of its visitors, subscribers, and shareholders, the Gardens are additionally provided with tennis-courts, roller-skating rink, orchestra, and—for the children—‘giant’s strides.’ During the summer *al fresco* concerts are held on afternoons and evenings at advertised dates and times, and on all public holidays the popular fêtes form a prominent holiday feature of Bristol and the surrounding district.

The admission to the Gardens is sixpence, and they are open on week-days from 9 a.m. to sunset, and on Sundays to shareholders and subscribers only from noon till 4 p.m.

The Gardens contain a fine new carnivora-house. In front of a handsome structure of coloured glazed bricks and free-stone are commodious iron-girt enclosures, which communicate with the dens inside and allow the animals, when the weather and season permit, to come out into the fresh air and sunshine. The monkey house is constructed on the best principles for securing efficient ventilation, whilst at the same time maintaining the high temperature that is so necessary to its tropical inhabitants. A double set

of heating pipes surrounds the principal cage and passes round the room. The central cage is divided into three compartments, and is furnished with a large rotating iron framework resembling a sort of skeleton wheel, upon which the inmates amuse themselves. In the museum in the centre of the Gardens are to be seen mounted skins of various animals which have lived in the Gardens. There is also a fine collection of birds, presented by Dr. H. and Mr. E. Wheeler, also a good collection of birds' eggs and beetles.

When the grounds were acquired it was intended that they should be laid out, not only as Zoological Gardens, but also as an arboretum. There are many trees in the Gardens, the most striking of which are the evergreens, the pines, the cedars, and the cypresses. During the summer months a number of ornamental plants are set out, such as agaves, yuccas, fan palms, etc. There is also to be seen one of the finest collections of ferns in England.

In 1901 the total number of visitors, irrespective of subscribers and their friends, was 113,319. Animals sold realized £133 6s., including a young dromedary and five lion cubs, all of which were born in the Gardens; £249 16s. were paid for new animals, including a pair of lions from Herr Carl Hagenbeck of Hamburg. The new lion house, built in 1900, cost £2,742 12s. The total turnover for the year was £10,158 4s. 6d., the largest on record since the foundation of the Society.

On entering these pretty Gardens and turning to the left, a long terrace, with well-kept flower-beds and

trees on either side, confronts one. The first house is the new lion house, a small but well-made and beautifully clean structure. After this we come to the old lion house, containing a very valuable and representative collection of the larger carnivora. The monkey house is next, and this is followed by the bear pits. In the centre of the Gardens is a band-stand, a parrot and reptile



GARDEN AND LAKE, CLIFTON.

house—erected in 1892—some tennis-courts, a large lawn, upon which were grazing a number of wild geese of many varieties, and a museum. Next we come to the elephant house, containing an Indian elephant, some zebras, and camels. After this the deer and zebu sheds are found, with outside paddocks, and then we come to the aviaries. A long line of bird

enclosures is now in course of construction in the grounds.

These Gardens, although small and containing comparatively few animals and birds, are exceedingly pretty and picturesque, and are justly celebrated for the number of lions bred in them.

CHAPTER XXXV

ZOOLOGICAL GARDENS, BELLE VUE, MANCHESTER

THESE well-known Zoological Gardens, occupying some eighty acres on the south-eastern border of the city of Manchester, were founded in June, 1836, by John Jennison, in whose family the property remains to the present time. He had opened a small zoological collection in 1828 at Stockport, when Belle Vue House with land became vacant, and gave a name to his Garden and opportunities for extension. A lithograph of the Gardens, taken about 1846, shows only cages for domesticated animals and birds, a few parrots, monkeys, and deer.

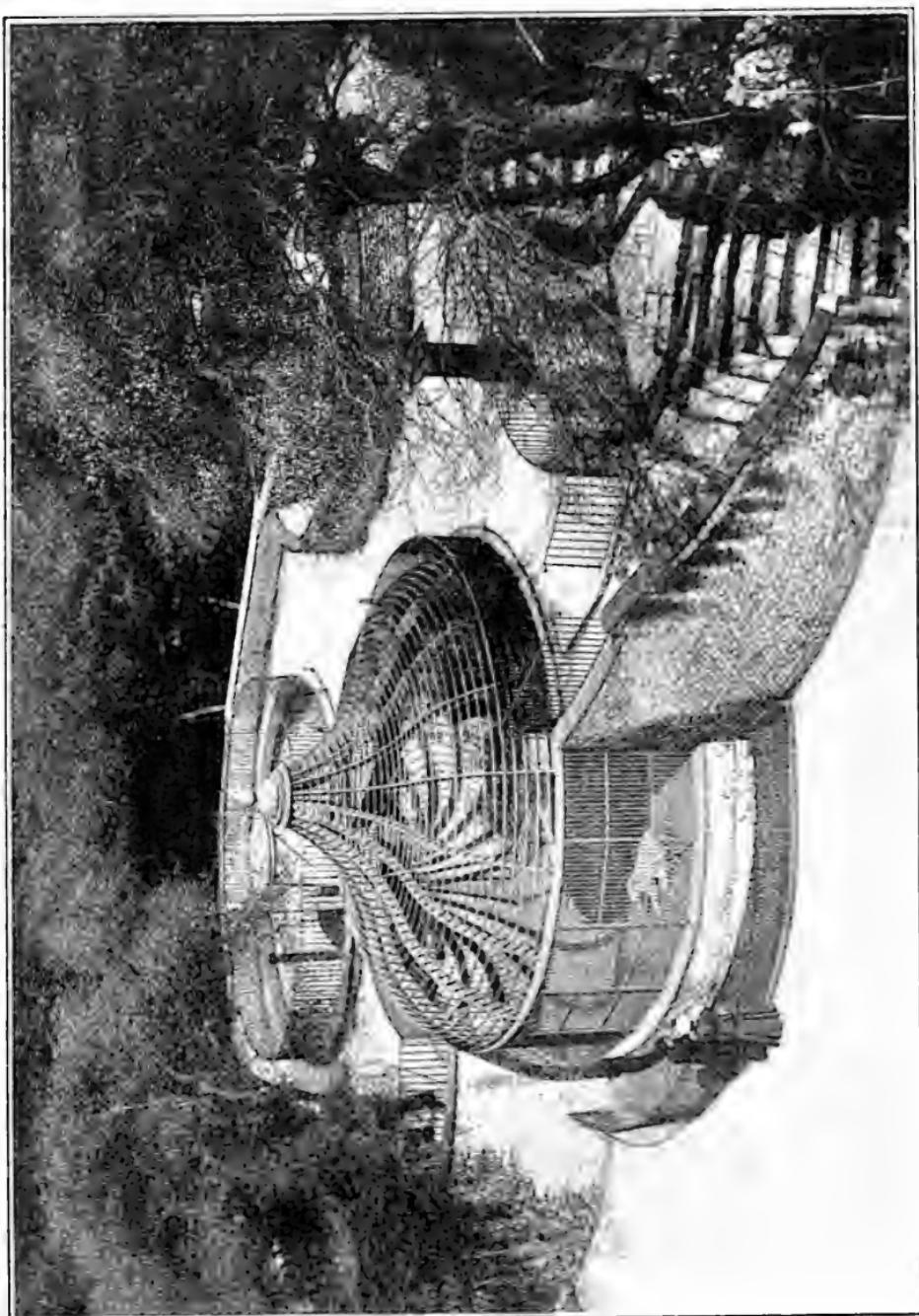
On the opening of the London and North-Western Railway to Manchester (*circa* 1846), the Gardens reached their full dimensions, and an entrance was built to accommodate visitors alighting at Belle Vue Station. The zoological collection still clustered close round Belle Vue House and the bowling-green ; indeed, the main outline and extent of the collection of the early fifties is still visible in the so-called aviary of the present day. It is divided into two compartments. The first is the more interesting. There are cages on three sides, arranged in four tiers—the highest evidently intended for the larger birds of prey, the lowest for car-

nivorous beasts, and the intermediate tiers for birds and small mammals. A few round cages in the other side held paroquets, and the macaw-stands were placed in the middle. A large aviary occupied the second compartment. The collection was compact and representative. About 1852 a new range of cages was built for the larger cats, and a little later the first elephant took up his residence in the Gardens.

Three cages represented the first lion and tiger house, and one of the first occupants was the King of Oudh's 'fighting tiger,' purchased at a very high figure, and never surpassed since in size or nobility.

About 1870 began a time of extension and decentralization. The lion house was extended to its present size, and it proved a suitable place for breeding both lions and tigers. The other animals were housed, without much attempt at scientific order, far and wide over the extensive grounds, which had been considerably augmented by purchase, and now, with their two lakes and wooded tracts, offered innumerable picturesque cage sites. The polar bears form a beautiful picture in their light-built cage under a knoll covered with noble forest trees that dip their roots in the shady waters of the lake. A moss-grown staircase leads up to the pits which contain Himalayan black bears and a Russian brown bear. They take life easily, many reaching the age of fourteen to twenty years.

Beyond the lake and water-fowl pond stands the monkey house, a large white building of Moorish design, 800 square yards in area, the boast of the Gardens and the finest in Europe. There is a central



THE BEAR PITS, MANCHESTER.

large cage (90 by 18 feet), replete with amusements, such as the village pump and well, the great wheel, aerial flight, rocking-horse, and automatic running donkeys, that never fail to please the animals and cause endless fun to the spectators. The side cages usually contain specimens of the larger baboons and the more delicate monkeys and lemurs. The house is lofty and well lighted. Ventilation is amply provided by the removal of all the windows at one end, as experience has proved that the monkeys live much better in the fresh air. Formerly, with the house kept hot and close, the mortality was high. Now, with free access to the open air, it is much lower, and every morning the whole troop can be seen sitting in the sunshine even when the ground is snow-covered. But even these animals suffer much more severely than those that are made to endure all the rigour and changes of our climate with no artificial heat whatever. The baboons, Rhesus, Bonnet, and Ringtail, all seem to improve under this régime ; two drills, turned out as babies six years ago, are now perhaps the finest of their kind in Europe, and the tonic is so efficacious that ailing monkeys removed from indoors often recover with surprising rapidity.

Such success suggested a similar open-air cage for the chimpanzees, but with a heated inner chamber. These delicate animals can often be seen enjoying the fresh air even in winter. It is the custom here to educate these anthropoids, two of which, named respectively Consul I. and II., developed quite extraordinary intelligence, so great in one case as to merit and receive in life a biography that had a much larger

circulation than such books usually obtain, and in death the honour of an obituary verse, which we give below, from the pen of Ben Brierley, one of Lancashire's most honoured poets ('Consul I.', 1892-93):

' "Hadst thou a soul" ? I've pondered o'er thy fate
 Full many a time : Yet cannot truly state
 The result of my ponderings. Thou hadst ways
 In many things like ours. Then who says
 Thou'rt not immortal ? That no mortal knows,
 Not e'en the wisest—he can but *suppose*.

' Tis God alone knows where the "Missing Link"
 Is hidden from our sight ; but, on the brink
 Of that Eternal line where we must part
 For ever, sundering heart from heart,
 The truth shall be revealed ; but not till then—
 The curtain, raised by the Almighty, when
 Mankind must answer for the deeds of men.'

BEN BRIERLEY.

Consul II. added the riding of a tricycle and bicycle to his predecessor's accomplishments, but sad experience warned his masters not to teach him the use of a key. Teaching was usually required at first, but sometimes he seemed to think for himself. Another chimpanzee at these Gardens, fastened in a double cage away from the visitors, learned of his own accord that nuts thrown to him (against the rules), if out of reach of his hand, could be secured by pushing his blanket over them and snatching it quickly back ; and with very little demonstration he learned, too, that a short stick could do similar service. He even had the sense to use the short stick to reach a larger one, if the nut were placed at a distance requiring its use,

but he could not appreciate the advantages of a crooked handle.

The elephant house is a plain but roomy building, containing at present a male and two female Indian elephants, which are used in the Gardens, and a very fine male rhinoceros and female hippopotamus,



CHIMPANZEE, CONSUL I., MANCHESTER.

(By kind permission of Messrs. J. Jennison and Co., Manchester.)

both added in 1876 and yet in the finest condition. They are very savage, in marked contrast to the preceding rhinoceros, which was allowed to roam the grounds, and had to be driven for exhibition from his mud bath in the lake on the warm summer days.

Contrary to the usual custom in Zoological Gardens, this building is never heated, and the hippopotamus tank is filled direct from the lake, often from under the ice, without any ill effects supervening. Sally, the old Indian, with thirty-two years' service, lived longer than any other of the elephants ; but Maharajah was by far the most famous. Purchased in 1872 at the dispersal of Wombwell's collection in Edinburgh, he first lifted the top off the railway-van taken to convey him. His keeper then walked him the whole way to Manchester, and is still ever willing to spin a yarn on their adventures on the road, such as the lifting away of the toll-gate, or the troubles in getting stabling, no little difficulty with so large a beast. He lived and performed ten years in the Gardens, and, dragging a heavy load, was ever the leading figure in the May-Day processions, for which Manchester was then so famous.

The camel house is a similar building ; in it are housed the camels and large ruminants. Adjoining are the zebra and antelope pens, and a series of large pens for the deer and bisons that can stand our climate. A large specimen of the *Bison Americanus*, purchased prior to 1869 from the Marquis of Breadalbane, lived over thirty-three years in the Gardens.

The Gardens also possess a penguin house with a large glass tank for the display of all kinds of diving birds, also a sea-lion house with an outdoor pool and a large tank, 64 by 20 feet, in which the animals display their agility and intelligence under training. Young sea-lions have been bred in the collection.

Above the leopard house is the museum, where past

tenants of the Belle Vue cages find a resting-place—among others, the great elephant Maharajah, the chimpanzees, and the great orang, with his arms 7 feet 6 inches in stretch, which was exhibited in the Gardens in the summer of 1899. Housed in the same building are the live snakes and saurians, the finest specimen a reticulated python 27 feet in length. The accommodation is, however, judged insufficient, and a reptile house is in contemplation.

Amongst exciting and amusing incidents the following have occurred in the Gardens :

One summer midnight, about twenty-five years ago, a cage-door was left open, and a lioness escaped into the grounds. The keeper was informed, and saw her lying by the back door of the house. He immediately went to her den, where she had two cubs lying, and, taking one under each arm, walked up to her, and so persuaded her to follow him back to the den. This keeper (Thomas Day by name) had been a tamer, and in his early days at Wombwell's had performed before the Royal Family at Balmoral.

Earlier still, probably in the fifties, a leopard escaped from its cage. Mrs. Jennison, senior, wife of the founder, happened to be passing, and courageously went into the house, and with her apron 'shooed' the animal, as though it had been a hen and chickens, straight back into its cage, where she fastened it up.

In the very early days, when Belle Vue was in the country and our enclosures were less perfect, it was a common thing for the countryside to turn out for a red-deer chase after an escape from the Gardens.

These things do not happen now, as there is a 12-feet high wall all round the 80 acres. A sealion did once get as far as the exit, some 300 yards from its cage. When diving from a high platform his impetus gave him his freedom. When that escape was blocked he showed wonderful climbing powers, getting over a barrier 6 feet high by using a corner. However, his keeper stopped him finally, and turned his powers to proper uses by adding the climbing of a pole to his other tricks. He managed 6 feet.

One other incident for a close. Three black-backed jackals (two of which are still alive) were caged at the Longsight end of the Gardens. Their cage-door was left open in October, 1900 ; they got out, traversed the whole length of the Gardens, and went out by the Lake Hotel exit. They were seen some 200 yards away outside, playing together. They returned towards the Gardens ; one was headed off by some boys, the other two entered as they had left (by the exit at the extreme end of the large lake), and, retraversing the Gardens, returned unmolested to their cage. (The third was afterwards caught and returned to the Gardens.) The above is so curious that it is perhaps as well that the event is recent enough to be capable of very full proof.

An extract from the *Manchester Guardian* of June 1, 1901, will form a fitting termination to this short account of Belle Vue :

‘Of the zoological collection, the pride and boast of Belle Vue, it is only necessary to say that in every department it is kept thoroughly up to date.

‘Mr. John Jennison, the founder of the establishment, could not

have dreamed forty years ago of the priceless possession which his modest "Gardens" would eventually become to the city. . . . We remember saying that the Gardens were the playground of Lancashire. The description needs to be very largely expanded. A pleasure resort which attracts, as *Belle Vue* does, thousands of visitors from Edinburgh and Glasgow on the north, Yarmouth on the east, and Gloucester, Cardiff, and Swansea on the south and west, has about it something of a metropolitan air. Its votaries, indeed, are not confined to the inhabitants of one hemisphere. We have heard New Yorkers almost regretfully admit that the Empire City had nothing so good to show in the way of a pleasure resort.'

CHAPTER XXXVI

THE GARDENS OF THE ROYAL ZOOLOGICAL SOCIETY OF IRELAND, DUBLIN

THIS Society was founded on May 10, 1830. On that day a public meeting was held in the Rotunda for this purpose. The Duke of Leinster occupied the chair, and a large and representative gathering was present. The first and most important resolution—viz., ‘That it appears expedient that a society be formed, to be entitled the Zoological Society of Dublin’—was proposed by the Earl of Longford and seconded by the Surgeon-General (Mr. Philip Crampton). The second resolution, which was proposed by the Earl of Howth and seconded by Dr. Whitley Stokes, was worded as follows: ‘That the object of the Society shall be to form a collection of living animals on the plan of the Zoological Society of London.’ Towards the close of the meeting Dr. Jacob intimated that the Lord Lieutenant (the Duke of Northumberland) had arranged to give a portion of the Phoenix Park for the purpose of establishing a Zoological Garden.

At the second meeting, held on May 15, 1830, Dr. Whitley Stokes, then Regius Professor of Medicine in Trinity College, was elected the first Honorary Secretary of the Society, and on May 21, 1830, Mr. James

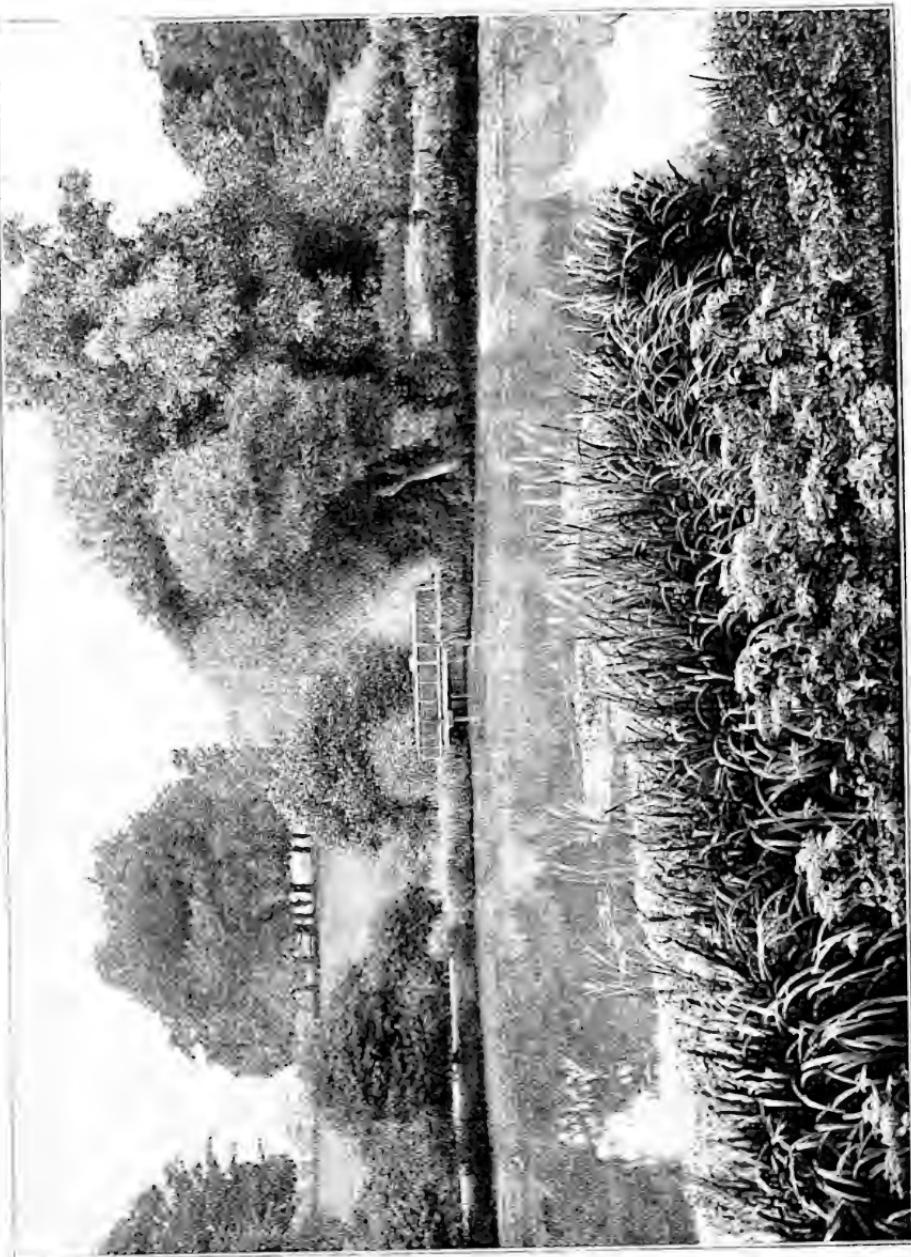
Pim, junior (41, Dame Street), was elected the first Honorary Treasurer.

Although numerous meetings of the Managing Committee were held during the summer and autumn of 1830, there does not appear to have been much progress made in the formation of a Garden until the summer of 1831. This was largely due to the fact that the Duke of Northumberland left Ireland in December, and to the difficulties which, in consequence, arose in obtaining the formal possession of the site in Phoenix Park. In June, 1830, the Honorary Secretary intimated that the Lord Lieutenant 'had been pleased to give formal possession of the ground in Phoenix Park,' but it was necessary that this grant should be officially confirmed by the new Viceroy, the Marquess of Anglesey. It was not until May 28, 1831, that a letter was received from Colonel Gossett, the Under-Secretary, who, in his capacity as Park Ranger, conveyed the necessary powers, and at the same time intimated that the Lord Lieutenant would be 'happy to patronize the Society and give it his support.'

At this stage it is right to bring prominently forward the valuable services which were rendered by Mr. Nicholas Aylward Vigors, F.R.S., in connection with the early struggles of the Society. Having taken an active part in the foundation of the London Zoological Society in 1826, he had been elected its first Honorary Secretary, and held that office until 1833. He was deeply interested in the Dublin project, and ten days after the public meeting he wrote to the Managing Committee to say that the London Society would extend its co-operation to the Dublin Zoological Society.

A few weeks later he was elected on the Managing Committee, and attended several of the early meetings. It is evident that his advice was much relied on, and largely served to shape the early policy of the new Society. At the first meeting at which he was present (July 8, 1830) he urged the necessity of having a plan of the proposed Gardens prepared by a competent person, and he was authorized by the Committee to ascertain whether Mr. Decimus Burton, Architect to the Zoological Society of London, would place his services at the disposal of the Society in Dublin. This Mr. Burton ultimately agreed to do for a fee of £75.

Some slight idea may be obtained from Mr. Burton's report of the condition of the ground at the time it was allotted to the Society. He says in regard to this: 'The ground on the other side' (evidently referring to the constabulary side of the lake) 'is enclosed with a stone wall, but the line it takes is very irregular. The upper or eastern portion of the site is a paddock nearly level, at about 26 feet average height above the surface of the water. In this paddock are two groups of fine timber trees and an orchard. The slope next the water is thickly covered with well-grown underwood, principally thorny. The original buildings consist of a substantial dwelling-house, an outhouse or stable, and a small cottage. The Society have had erected, but in a temporary manner, a wooden building for the reception of the deer, nylgais, etc., alcove seats, bear pits, etc., and lately they have finished, in a better style, an otter place. There is an old ice-well in the grounds.'



PHOENIX PARK, DUBLIN.
(Photo by R. Welch, Belfast.)



From the minutes it would appear that the cottage was occupied by Mrs. Rourke, and that the substantial building referred to was the park-keeper's lodge. Mrs. Rourke, evidently uneasy with regard to her tenure, approached the Committee, and the Honorary Secretary was instructed to inform her that the Society did not 'at that moment require the house,' and that 'they will not interfere to have her removed immediately.' Mrs. Rourke appears to have been a somewhat troublesome tenant. In April, 1832, it was ordered that the communication between Mrs. Rourke's house and the Gardens be cut off, and in December of the following year 'Mrs. Rourke was cautioned not to hang any more of her linen within sight of the visitors to the Gardens.' Ultimately, on April 27, 1835, it was resolved 'that Mrs. Rourke be warned that, unless she do leave the Gardens before the next meeting of Council, she will forfeit the advantages so liberally accorded to her by the Council.'

During the winter of 1830-31 there were no meetings of the Committee, but after the formal acquisition of the site, operations were actively carried on with a view towards the early opening of the Gardens to the public. Up to this time the only animal mentioned as being in the possession of the Society is a wild boar. On September 25, 1830, £2 were allowed to Godden 'for the support of the wild boar,' and in the following year (May 28, 1831) there is an entry 'that the sum of £2 be given to Godden for feeding the pig.' During the summer of 1831 animals were gradually gathered in, but it is very doubtful if the Gardens could have been opened that year without the large consignment

that came through Mr. Vigors from the London Gardens.

In 1830 His Majesty King William IV. presented to the London Society all the animals in the royal menagerie in Windsor Park. Amongst these there were fourteen wapiti deer, of which two were sent to Dublin, along with one Sambur deer, one nylgai, two emus, two ostriches, and quite a number of less important animals. These animals arrived some time in June, 1831. There is a note in the minute-book (on the 25th of that month) to the effect that Dr. Stokes was empowered 'to send Godden to London as soon as possible to take charge of the animals, and bring them over by the London steamer.'

In 1831 the King handed over to the London Society the collection of animals that was kept in the London Tower, and on this occasion he expressed a wish that such as were not required for Regent's Park should be sent to the Zoological Society of Dublin. In this manner the first royal gift of animals came to Dublin. It consisted of a wolf, a leopard, and a hyæna.

The modest character of the operations of the Society during the first two years may be gathered from the entries of the weekly payments. On May 25, 1832, 'wages, labour, and provisions for the last week' came to £6 2s. 9d. This may be taken as a sample of the weekly expenditure, but it does not represent the total outlay upon provisions, because bills were run for several items of food for the animals.

The Gardens were opened to the public on Sep-

tember 1, 1831. The following advertisement appeared in the *Saunders' Newsletter* on the morning of that day :

‘ ZOOLOGICAL SOCIETY.

‘ The Zoological Garden in the Phœnix Park, under the patronage of His Excellency the Lord Lieutenant, will be opened for visitors on this day, Thursday, September 1, at nine o’clock in the morning, and will not be closed until a late hour in the day.

‘ All persons are to be admitted for sixpence each, and they are to write their names at the gate.

‘ A member who has paid his subscription, and two friends coming with him, are admitted free of expense.

‘ Members are also allowed to purchase transferable tickets.

‘ The Committee request that visitors may leave their sticks and umbrellas at the gate, and that children may be kept from approaching too near to the bars which confine the animals.

‘ J. Pim, Esq., 41, Dame Street, continues to receive subscriptions and donations.

‘ The first day’s receipts will be given to the Mendicity Institution.’

On January 10, 1833, Mr. Drewett was appointed Superintendent at a salary of £100 a year, with £20 per annum for house-rent, until such time as a house could be provided. The Society met on November 19 at Hunt’s Hotel, Dawson Street, and Dr. Whitley Stokes read the first report of the Committee of Management. It would appear that from the opening of the Gardens, September 1, 1831, up to November 1, 1832, 36,497 visitors had paid for admission. The Treasurer’s statement gave the following items :

			£	s.	d.
For subscriptions	...	...	508	5	0
Admissions (September 1, 1831, to November 1, 1832)	...	...	912	8	10
			1,420	13	10
Entire expenses since the commence- ment...	...	...	1,331	9	9
Balance in Treasurer's hands	...		89	4	1

A list of the animals in the Gardens is also furnished. This includes forty-six mammals, of which fifteen were monkeys, seventy-two birds, and a few other animals.

Without question, the most important meeting of the Society since its foundation up to the present day was that which was held in Hunt's Hotel, Dawson Street, on May 15, 1833. Mr. W. Tighe Hamilton, who had in the previous year given notice that he would propose a new code of laws for the government of the Society, again brought this matter forward. The keynote struck at that meeting was that the Zoological Society should be developed as a Scientific Society, and that its leading aim should be to stimulate a love of natural history amongst the people. A protracted and animated discussion took place on the new code of laws submitted to the Society. Captain Portlock, R.E., was elected Honorary Secretary in place of Dr. Stokes, who had opposed the new code of laws. The Surgeon-General, Mr. Philip Crampton, became the first President, and Mr. James Pim retained office as Treasurer.

It is pleasant to note that the Society showed its

indebtedness to Mr. Vigors, and its appreciation of the high scientific reputation which he had earned, by electing him one of its first Vice-Presidents.

The code of laws which was passed in 1833 is the same as that which now regulates the affairs of the Society. In the course of the sixty-seven years which have elapsed since the code was adopted few alterations have been made, and for the most part they are of a trifling character. The laws, as originally adopted, rigidly limited the tenure of office of the President to one year. It is now competent for the Society, should it so desire it, to re-elect the President annually for a period of five years. Under the present regulations only three instead of five members of Council retire each year. Other slight changes have taken place in the laws since 1833, but it is not necessary to specify them.

We have noted that, on its institution, the Society was designated the Zoological Society of Dublin. It bore this name for eight years, and it was only after her late Majesty Queen Victoria graciously consented to become Patron that it assumed the title which it now bears.

A special feature in connection with the management of the affairs of the Zoological Gardens consists in the fact that the members of the Council take breakfast together each Saturday morning in the Gardens before proceeding to transact the weekly business. These breakfasts have become one of the social features of Dublin, and there cannot be a doubt that they exert a most important influence in advancing the interests of the Society. Not only do

they promote good-fellowship amongst the members of the Council, but they have a remarkable effect in obtaining a regular attendance at the business meetings which follow. They are also recognised as a powerful agent in obtaining recruits for the Society. Curiously enough, it would appear that an impression has got abroad amongst some of those who are not acquainted with the management of the Zoological Gardens that the expense of these breakfasts is defrayed out of the funds of the Society. Such a conception is absolutely erroneous, and it may be well also to state that even the furniture of the room in which the breakfasts are held, and the table equipment, are the personal property of the members of the Council.

At least one anniversary dinner has taken place in the Gardens (in the summer of 1838). This dinner, held always in connection with the Annual Meeting of the Society, was continued for some years; but, except on the one occasion referred to, it appears to have been held in an hotel.

In having no salaried officers outside those actually engaged in the Gardens, the Zoological Society of Ireland differs from most, if not all, kindred societies.

In 1868 there were 127,900 visitors to the Gardens, the receipts being £938 18s. 6d.

In 1869 there were 136,052 visitors, and there were in the Gardens 143 mammals and 219 birds.

In 1877 Miss Nesbitt presented the Gardens with a handsome aviary costing £350.

In 1878 a severe frost occurred, covering the lake in the Gardens with a sheet of ice 9 inches thick. A fortnight's good skating was the result, and no animals

were lost, owing to special precautions being taken to supply additional fuel for the stoves and extra straw for bedding. During the visit of the British Association to Dublin in August, the Council entertained at breakfast seventy-two of the most distinguished of the foreign and British visitors in the aquarium. There is, however, no record to show whether they were given anything else but fish! During this year animals were born in the Gardens, including three leopards. One hundred and nineteen carcases of beef, twenty-four horses, and seventeen sheep were used to feed the animals.

In 1879 ten lion cubs were born in the Gardens. Two Himalayan bear cubs were successfully reared during the year, a circumstance without parallel in the history of Zoological Gardens.

In 1880 five lion cubs and three leopard cubs were born in the Gardens. A polar bear and a bison were purchased. Thomas Flood, one of the keepers, was killed by the red deer stag, of which he had the care.

Over one hundred animals and birds were added to the collection in 1881; four lion cubs and one leopard cub were born in the Gardens.

In 1882 two young elephants were purchased from Burmah. In order to aid in the construction of a suitable house for them, a number of Fellows and Professors of Trinity College, Dublin, gave a series of lectures, which produced a net profit of £50.

In 1883 the first dog show was held in the Gardens. Four lion cubs, one red deer, and one yak were born.

In 1884 the dog show was made an annual event. The Egyptian pariah dogs, captured on the field of battle at Tel-el-Kebir, and presented by Lieutenant Cusack, produced puppies.

In 1887 the receipts at the gate fell considerably; but this was balanced by the sale of lion cubs and other animals bred in the Gardens, which realized £260. A fine paddock and shelter for the red deer was constructed and the aquarium was improved. One hundred and forty-one lions had up to now been born in the Gardens, cubs realizing £45 each. Two moose were obtained in Canada, and presented by Mr. S. K. Twigg. In 1885 no less than twelve lion cubs were born, and six were disposed of for £100 in cash and £105 worth of other animals. An adult lion costs £15 a year to feed. Two thousand eight hundred pounds have now been obtained from the sale of lion cubs.

An event which had been looked forward to with much interest—namely, the birth of a young American bison—terminated fatally both to mother and calf. A fine young orang-outang was acquired, and was visited by thousands.

In 1889 the average price obtained for lion cubs was £42 10s. The total number of cubs born in the Gardens now stood at 145. A tiger died this year, but three tiger cubs were presented by Surgeon Henston, who secured them in a cave in India after having killed their parents. Two lion and two tiger cubs were to be seen living on the most friendly terms together in one cage. The orang-outang died.

In 1891 the Gardens were visited by His Royal



THE LAKE, DUBLIN.
(Photo by R. Welch, Belfast.)

Highness the late Duke of Clarence on two occasions. Seven lions were born in the Gardens.

In 1892 a savage encounter took place between a lion and a tigress which had been placed in the same cage together. There were seven species of bear to be seen in the Gardens. The last of the large kangaroos died. The Gardens were visited by the Lord Lieutenant. The attempts to breed lion and tiger hybrids had up to now failed.

Amongst other animals acquired in 1893 was a jaguar, two hunting leopards, a black leopard, a tapir, a yak, a bactrian camel, a female nylgai, and a male ostrich. Four hundred pounds were spent on the erection of a large outdoor aviary. One hundred and sixty-nine lion cubs had now been born in the Gardens, 'Old Girl' (from 1862 to 1873) producing no less than fifty-five and 'Queen' (from 1884 to 1891) twenty-eight. 'Old Charley' (between 1866 and 1874) was the father of forty-seven.

In 1895 her late Majesty Queen Victoria presented the Gardens with a fine young male lion. Various improvements were effected in the grounds. An island was formed in the lake, and a goat house and rockery were built. The Burchell's zebra died of old age, having been twenty-one years in the Gardens. A chimpanzee and a white-tailed gnu were added to the collection. There were born in the Gardens during the year ten puma cubs, three lion cubs, one hog deer, two Barbary sheep, one llama, two red deer, and other smaller animals.

In 1896 alterations were made in the aquarium, which was built in 1868 ; an alligator pond and

diving-bird cages and tanks were introduced into it. Since 1857 the large sum of £4,760 had been realized by the sale of lion cubs. A Cape hunting-dog had a litter of four puppies, but unfortunately they all died. A pair of Burchell's zebras was added to the collection, and twenty-nine animals were born in the Gardens during the year.

In 1897 Field - Marshal Lord Roberts, V.C., was elected President for the ensuing year. The aquarium, which had been closed for alterations, was reopened by the Countess Cadogan. Out of a litter of five Cape hunting-dogs born this year only one was reared ; seven lion cubs were born, all of which died.

In 1898 there were 123,806 visitors to the Gardens, and the receipts at the gates were £1,785 16s. 1d. The name of the late Dr. Haughton, for many years President of the Society, was perpetuated by the erection of 'Haughton House,' a building for the display of living monkeys and birds. Steps were taken to endeavour to preserve the nesting-places of the choughs. A sea-lion, the only specimen of the kind ever brought to Ireland, was acquired. Its weekly fish bill cost £1, whilst its weekly supply of water cost 10s. Two litters of Cape hunting-dog puppies were born, and a few reared by the aid of foster-mothers. The period of gestation averaged about eighty days. Many valuable donations to the Gardens were made, including monkeys, a python, squirrels, peacocks, seven crocodiles, a monitor, and several birds.

On May 19, 1899, the Haughton Memorial Building was formally opened by His Excellency the Lord Lieutenant. The Irish lion industry was now causing

anxiety, and few cubs were born. A Nubian lion was bought from Herr Carl Hagenbeck to try to lay the foundation stone of a second strain. This purchase was attended with the most gratifying results, for in September a litter of three cubs was born, 'Germania' being the mother. Thus a new strain was established. Two months after, 'Hypatia' gave birth to three cubs by 'Cæsar'; she, however, refused for the third time to rear her cubs. A goat suckled them for three days, and then a fine Irish red setter was brought into requisition as a wet-nurse. During the year a medal was instituted, to be given each year to the person who submitted the best series of animal photographs taken in the Gardens. Lord Roberts, the President of the Society, was the means of the Gardens obtaining a black buck, two axis deer, and a fine male leopard, and a large number of important gifts were made from all parts of the world. A camel calf (the first ever born in Ireland) unfortunately died in six days. The period of gestation was twelve months and twenty-one days. Two anthropoid apes died. A hybrid antelope, between *Gazella subguthurosa* and *Antelope cervicapra*, was born, also two Barbary sheep, five wolf cubs, one great wallaby hybrid, and four puma cubs.

On April 20, 1900, her late Majesty Queen Victoria visited the Gardens, and spent an hour slowly driving round the grounds and inspecting the animals. Plans were formulated for the erection of a beautiful new lion house fitted with outdoor cages. The new house was to be called 'the Roberts' House,' after Lord Roberts, the President. Professor Cossar Ewart sent

a number of his zebra hybrids for exhibition. They remained in the Gardens for over a month.

The Irish lion industry at this time began to revive. During the first forty-four years of this industry it had periods of marked depression. From 1874 to 1878 Dr. Ball recorded that, 'though the blood was preserved, breeding was interrupted.' Again, between 1895 and 1898, only eighteen cubs were born in the



LION CUBS FROM SOMALILAND, DUBLIN.

(Photo by Miss Grace Eustace.)

Gardens, and of these only six were reared. Three litters were born during 1900. These were seven males and two females. The number of cubs born in the Gardens since 1857 had now reached the large total of 211, of which 112 were males, 98 females, and one of unrecorded sex. The average litter is now composed of two or three; prior to 1886 it comprised

four. The famous lioness 'Old Girl' contributed no less than fifty-five cubs.

The stock of lions in the Gardens this year was two males, five females, and eleven cubs. A large number of presents were received, among which may be mentioned two Bengal tigers from the Nizam of Hyderabad, a black bear cub, a large python from West Africa, six giant tortoises from the Hon. Walter Rothschild, and a polar bear. A female white-tailed gnu, two Bactrian camels, and two ostriches were purchased. The sea-lion and the two fine cheetahs died, together with an ostrich, a recently acquired chimpanzee, and a male Bactrian camel.

The Royal Zoological Society of Ireland has now had an existence of seventy years, and is only four years younger than the London Zoological Society, founded in 1826.

CHAPTER XXXVII

CARL HAGENBECK, THE KING OF ANIMAL IMPORTERS. A VISIT TO HIS HANDELS MENAGERIE IN HAMBURG AND TO HIS WILD-ANIMAL PARK IN STELLINGEN

MANY people will no doubt wonder how Zoological Gardens obtain their collections of animals and birds. It was my good fortune to be conducted round the Handels Menagerie as well as the Park at Stellingen by Herr Carl Hagenbeck, the genial king of animal importers. I was ushered into his office, and seated upon a chair made of antelopes' horns and covered with lizard skins. In front of me on a bureau were some life-like bronzes of animals, modelled from living specimens formerly in Hagenbeck's collection. Some bronze elephants with real ivory tusks were remarkably well executed. Above the writing-table was a portrait of Hagenbeck's father framed in ivory tusks, and close by a curious malformation of roe-deer's horns. The room was littered with horns and skulls and curiosities from every part of the world.

‘I began to collect animals when I was four years old,’ said Carl Hagenbeck, with a smile. ‘My father began business with some seals, and in 1852 he bought the first polar bear ever seen in Europe. He exhibited



CARL HAGENBECK.

it in Hamburg, charging fourpence admission. With the proceeds he bought other animals and birds from sailors who brought them home on their ships.'

From this humble beginning Carl Hagenbeck, by his wonderful skill and knowledge of the art of keeping live animals in health, has now, after having been head of the business for thirty-six years, the largest stock of live animals in the world. The value of his animals is greater than the value of the animals in any one Zoological Garden in Europe.

'I suppose you employ a good number of people to collect for you?' I asked.

'Yes,' he said; 'just now I have a large crowd of people coming from Siberia with thirty roe-deer, fifteen ibex, wild sheep, and several small animals and birds for me. I have seven people collecting for me in Central Asia, and one in India fetching me home twenty elephants. Three of my people are in Mongolia, one in the Pamir district, one in the Altai district, and one in the Arar lake district. One of my men is on the road now from the Soudan, and will be here the first week in June with three large giraffes, some kudu, and other antelopes.'

'The giraffes for England?' I asked.

'Yes,' he said; 'the Duke of Bedford has already bought them for his park.'

'But when are you going to import an African rhinoceros?' I asked.

'Stop a moment,' Hagenbeck replied; 'some of my people, now animal-catching in German East Africa, have got me already for shipment seventy zebras, two African rhinos, some white-bearded gnus, water-buck

and other antelopes, smaller animals, and birds; one of my men is coming home from Abyssinia with some Grévy's zebras.'

'Ah! but when, Mr. Hagenbeck, will you get a gorilla?' I said, thinking I had him this time.

'Stop a minute,' again said Hagenbeck; 'I am expecting within the next three months from West Africa several chimpanzees and also some young gorillas. On April 12 last my men in Australia had caught for me sixty kangaroos, including several big red "boomas" and some entirely new species of kangaroo. They have also got a collection of rare little animals and a great number of interesting and rare birds. Next month one of my people goes again down into the Kadizian steppes to fetch some waggon-loads of big camels and dromedaries. Out of that district last year I imported sixty-five camels and dromedaries. Besides all this, I buy up everything which comes by ship into Hamburg. Into this place in one day came 5 Ceylon elephants, including a mother and baby; 2 Sambur deer from India; 21 various monkeys from West Africa; 102 flamingoes; 3 white storks from Egypt; and 162 baboons and 3 hyænas from Arabia. Not only are animals continually coming in, but plenty are going out. The Americans are beginning to go in tremendously for Zoos, and in a few years' time there will be some magnificent Gardens over there. Last week I shipped £500 worth of animals to Cincinnati and £700 worth of animals to Philadelphia.'

'You must have had many adventures when travelling and carting your animals about?' I suggested.

'Yes; I have had many narrow escapes,' he replied.

'In Suez a full-grown giraffe ran away with me. The rope I held him by got entangled round my arm, and I could not get free. I was dragged along the streets and fearfully banged about. When I at length got loose I was so exhausted I was obliged to lie down for a quarter of an hour without moving. Another time a freshly imported troop of elephants ran away in Vienna. I was upon one of them myself, the others hugging close to it. I lost my elephant-guiding hook, but I stopped him by biting his ear with my teeth, when all the others, which were closely bunched round him, stopped with him. I got the six elephants, as I thought, safely tethered by a rope in the railway-car ; but the rope broke, and there was I with six loose elephants boxed up in a closed car. When I got out I was uninjured. Another time a big African elephant got frightened at the railway-station at Hamburg and ran away with me, but I held fast to his ears, and finally brought him back to his stable. Another time a big elephant got hold of me, lifted me up, and smashed me down on a barrier which was before him. I got several bruises, but no bones were broken. Again, I was chased by a male 'must' elephant, which had gone mad. I came well out of that also, and finally tethered him unaided. Once again I was packing animals away in a large packing-case, and was standing with my back to a six-feet tusker elephant. This elephant had been badly treated, but this I was unaware of. All at once the elephant made a rush at me, and literally pinned me to the packing-case. One tusk grazed me on my right side, the other grazed my left. My clothes were cut, and the skin on both my

sides was grazed. Finally, I fell down, and escaped in a miraculous manner. But I now come to what I consider the greatest escape of all. I was superintending the lowering of a large alligator into a pit, when, with a sweep of its tail, it knocked me right into the middle of a dozen large alligators and some polar bears. I jumped out in a second, or I should most assuredly have been torn to pieces. I could tell you many other events in my life, which you would scarcely credit; but come, I must show you round the menagerie.'

What a wonderful place that menagerie is, to be sure! There are no less than three training cages, where lions, elephants, tigers, dogs, and bears are all taught to perform together most astonishing tricks. The training of these animals goes on all day.

'Just step on one side a minute,' calmly says Carl Hagenbeck.

The next instant a cage was opened, and two large lions bounded out into the open past me without taking any notice, and with a jump were into a large circular cage, where they were put to do tricks by an attendant, who played with them as you or I would play with kittens. They were rough, too; they jumped on his back, and they ran at him and pawed him, but he didn't seem to mind a bit. In a second training cage another man, armed only with a stout whip, led in one by one six tigers and three lions, all full-grown, and, catching each by the neck, first put a chain collar round it, and then tethered each to the iron bars of the cage at equal distances apart; a large barrow of horses' heads and flesh was then brought in, and

some flesh flung to each. There was no fighting, as each was tethered apart.

In another cage three lions, two tigers, two leopards, and two pumas went through the same feeding process. I asked one of the men if he ever got hurt.

‘Yes,’ he said, ‘I get a scratch now and then by accident; but it is done in play, for I love my animals and they love me.’

I asked Hagenbeck what the lot of six tigers and three lions were worth. He answered that when he first trained them he was offered £7,500 for them. ‘But I would not take it,’ he added. ‘Why, they bring me in £4,000 a year clear profit when on the road, besides the advertisement they give me.’

In one house I saw 150 monkeys. Three large lion houses contained twenty-five lions, twenty-one Bengal tigers, and five crosses between lion and tiger, seen nowhere else in the world. Two of these lion-tigers were three weeks old, and were being suckled by a fox-terrier bitch. Two were one year and two weeks old, and one (a magnificent animal) was full-grown. It is five years old, is fawn-coloured and faintly striped; it weighs 450 lb., is 10 feet long, and stands 45½ inches high at the shoulder. It is the largest carnivorous animal alive. In one of the lion houses was a magnificent collection of red-deer horns from Hungary, Germany, and Denmark. In an elephant house were twelve elephants, including a female elephant suckling a youngster eight months old. The female was served in captivity, and is now expected to give birth to a second.

There were 28 big Arabian baboons, 40 adult females,

and 92 young ones, a very large number of polar bears, wolves, foxes, dogs, hyænas, leopards, 8 various bears, and many birds. There were, however, no giraffes, and Hagenbeck, when questioned, said, even now the Soudan has been opened again, he fears that there are not so many giraffes as there used to be there. 'Why,' he said, 'in the summer season of 1876 I had no less than thirty-five giraffes in my menagerie.'

A staff of twenty men is employed in the menagerie, and it costs Carl Hagenbeck £4,000 a year to feed his collections in Hamburg and Stellingen.

'All the animals look so well,' I remarked. 'How is it done?'

'Do you know what the secret is?' said Carl Hagenbeck. 'It is not warmth that animals and birds require. Why, I can show you photographs of my zebras and flamingoes, my lions and my antelopes, standing out in deep snow, and preferring it to a stuffy enclosed den. The secret of how to keep wild animals well is *fresh air*. They must have fresh air. All my lions can walk from their warm dens out into an open-air den. That's why they are well. Your lion house in London is no good. You have outside cages, it is true, but the animals are only allowed there in the summer months. Must animals be allowed fresh air only in the summer? Certainly not. They must have fresh air all the year round, not hot, stuffy cages during the whole winter.'

These are wise words from the most observing, most successful keeper of live animals in the world.

During my inspection of the Handels Menagerie it was impossible to take photographs, owing to the rain and terrific hailstorms.

‘Will you come now and see my animal park at Stellingen?’ asked Herr Hagenbeck.

‘With pleasure,’ I answered, eager to see more wonders.

A handsome carriage and pair soon drove up to the door. We stepped in and were driven away. Carl Hagenbeck now told me of his great scheme. He had bought a large property at Stellingen, and here, in two years’ time, he hoped to amalgamate his whole collection in one vast park. On one huge square plot of ground would be the stables for the elephants and the dens for the carnivorous animals, with the training cages in the centre. The whole of the rest of the land would be devoted to buffaloes, zebras, antelopes, deer, ibex, etc.

‘There will be no cages there,’ he said; ‘there will be no bars and no netting. You will stand here and look over a vast plain covered with animals of every description, all apparently in the same enclosure. But they will be separated by wide ditches, so ingeniously hidden by rockwork that it will appear to the eye as if all the animals were in the park together.’ Hagenbeck grew quite animated during the description of his vast plans. ‘In two years I shall spend on this property £20,000. And you know,’ he added, ‘in Germany you can do with £20,000 what you could not do with £40,000 in England, labour and materials being so much cheaper. But we have arrived, so let us get out and have a look at the place, such as it is at present.’

In one large pen there were no less than 102 flamingoes. Such a sight I had never witnessed since

I saw the hosts in the lagoons in Egypt. There were some 60 cranes and storks, 100 water-fowl, 50 swans, and 50 various birds. There were 50 deer of various sorts, 18 antelopes, 22 buffaloes, yaks, and zebus, 3 zebras, 2 camels and a dromedary, 8 llamas and guanacos, and some Shetland ponies. There were three sorts of water-buffalo from the Caucasus, Siam, and Egypt.

There was a female white deer, presented to Hagenbeck by the German Emperor. There were some of the rare Dobowsky's deer, found only in the possession of the Duke of Bedford. There was a pair of brindled gnus, taken in exchange from Dr. Sclater. There were Caucasian deer, axis deer, Sambur deer, and wapiti deer. There was an enormous dromedary from Russian Turkestan, the largest species of its race. There were Siberian roe-deer with enormous horns as big as our red deer's. There was an Alcal sheep from Russian Turkestan, and two sorts of ibex (one very tall) from Central Siberia. These animals, Hagenbeck says, will be found to be new to science, also one from the Pamir district, price £100 ! Hundreds of packing-cases, from one which held a rabbit to another which carried an elephant and her baby, filled a whole field. In the surrounding fields grazed llamas, yaks, and camels, where one would expect to find domestic sheep and cows.

‘ And here, I suppose, in two years’ time we shall see half a dozen okapi grazing ? ’ I suggested.

At last I had beaten Hagenbeck, for he shook his head, and answered :

‘ They are hard to get—very hard to get ! ’

After partaking of coffee in the house, I shook Carl Hagenbeck by the hand, and thanked him for his kindness in showing me the most wonderful collection of animals in the world.

To give some idea of the prices asked and obtained for animals, I take the following from Carl Hagenbeck's catalogue :

CARNIVORA.

		£	s.	d.
A pair of Nubian lions, four years old, tame, and performing	... ... ... ... ...	250	0	0
Male Nubian lion, nineteen months old	... ...	60	0	0
Female Somali lion, fine breeding animal, with three young ones, the lot	... ... ...	180	0	0
Male tiger from Siberia, one and a quarter years old		150	0	0
Puma, three and a half years old	... ...	30	0	0
Male leopard from Sumatra	... ...	25	0	0
Striped hyæna, three years old	... ...	15	0	0
Twelve polar bears, performing together, the lot	...	900	0	0
Thirty-three animals, all together in one huge cage—				
1 male Somali lion, nine years old.				
1 male Senegal lion, two years old.				
2 male Nubian lions, eighteen months old.				
3 male Nubian lions, fourteen months old.				
1 male Bengal tiger, two years old.				
2 female Bengal tigers, two years old.				
3 male Siberian tigers, two years old.				
1 male Indian leopard, three years old.				
3 polar bears.				
5 Thibetan bears.				
2 sloth bears.				
2 Russian bears.				
1 pair of striped hyænas and 5 large boarhounds.				
Price, including three caravans and properties	... ...	5,000	0	0

HAY-EATING MAMMALS.

			£	s.	d.
One female hippopotamus, six months old	...	...	500	0	0
Female Indian working elephant	...	...	300	0	0
Female Chapman's zebra	...	...	150	0	0
Llama, female	...	...	20	0	0
Male Brahma bull, largest ever imported, height to top of hump 5 feet 8 inches	...	...	150	0	0
Racing zebra bull and racing cart, the lot	...	...	15	0	0
Pair of yaks ...	...	...	50	0	0
Male white-tailed gnu, three years old	...	...	125	0	0
Leucoryx antelope	...	...	40	0	0
Altai deer	...	...	60	0	0
Chinese deer	...	...	50	0	0
Sika deer	...	...	8	0	0
Molucca deer	...	...	15	0	0
Fallow deer	...	...	5	0	0
Reindeer	...	...	15	0	0
Siberian roe-deer	...	...	30	0	0
Giant kangaroo	...	...	20	0	0

SMALL MAMMALS.

Jackals, each ...	...	...	...	..	1	5	0
Mongoose ...	...	...	...	...	1	5	0
Guinea-pigs, each	...	...	...	...	0	2	0
White rats, each	...	...	...	...	0	1	0

SEA MAMMALS.

One pair walruses, two years old, weight 5 cwt. each, perform well, the only ones in captivity	...	1,400	0	0
Sea-lions, each	...	75	0	0
Seals, each ...	...	15	0	0

MONKEYS.

					£	s.	d.
Baboons	...	...	...	...	7	0	0
Hamadryas	...	...	...	...	1	5	0
Mandril	...	...	...	...	4	0	0
Bonnet	...	...	...	...	1	5	0
Capucine	...	...	...	...	1	15	0

BIRDS.

One pair West African ostriches	...	...	75	0	0
Emu	...	...	10	0	0
Two Indian white cranes	...	...	25	0	0
Demoiselle crane	...	...	1	10	0
Marabou stork	...	...	7	10	0
Cape penguin	...	...	7	10	0
Seagulls, each	...	...	0	10	0
White swan	...	...	4	0	0
Condor	...	...	10	0	0
Black crow	...	...	0	3	0

REPTILES.

(Alligators and crocodiles are sold by the foot.)

Alligators, 1-foot reptiles, each	...	...	0	10	0
,, 2-feet ,, ,,	...	...	1	5	0
,, 2½-feet ,, ,,	...	...	1	10	0
Indian crocodiles, 6½ feet	...	...	7	10	0
,, ,, 7 feet	...	...	8	10	0
Lace monitor	...	...	2	0	0
Terrapin	...	...	0	10	0
Tortoises (<i>Testudo geometrica</i>), each	0	1	0

The above prices include packing and delivery free on board at Hamburg.

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